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ABSTRACT

These proceedings begin with a welcome (Catherine Junge). Presentations include "Curricular and Instructional Concerns as Related to Novice Associate Degree Nursing Faculty" (Elaine Mohn); "Comparative Look at Three Approaches to Conducting a Case Study" (Jill Shedd); "Changes in Policies/Procedures of Patient Care since 1965" (Janice Sandiford, Lorene Farris); "Leadership Opinion Measures of Student Officers in Health Occupations Students of America" (Norma Walters, James Noel Wilmoth); "The Development of an Integrated Human Science Course for Science Credit in the Indianapolis Public Schools" (Rosie Hicks); "Multicompetency Education at Methodist Hospital of Indiana, Inc. Research, Add-A-Comp R Program Implementation, and Results-to-Date" (Sherry Makely); "Hospice Care: Comprehensive and Compassionate Care of the Terminally Ill" (Gerald Holman); "Advanced Statistical Applications Using MANOVA" (Golam Mannan); "A Computerized Curriculum Planning System for Health Occupations Education" (Beverly Richards et al.); and "Patients' Psychological Adaptation to Chronic Illness: Preliminary Findings" (Karen Gable, Pamala Suter). (YLB)

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Second Annual

Health Occupations Education National Research Conference

April 7 - 8, 1988

University Conference Center
Indiana University - Purdue University
at Indianapolis

Indianapolis, Indiana

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HEALTH OCCUPATIONS EDUCATION
NATIONAL RESEARCH CONFERENCE

APRIL 7-8, 1988

PROGRAM SCHEDULE

Thursday, April 7, 1988

- 7:30- 8:30 Registration/Continental Breakfast
- A.M. Moderator: Karen E. Gable, RDH, Ed.D.
 Coordinator,
 Health Occupations Education
 Indiana University
- 8:30- 9:00 Welcome
- Speaker: Hugh Wolf, Ph.D.
 Associate Dean, School of Education
 Indiana University
- 9:00-10:00 Communications from the Division of Vocational
 Education, U.S. Department of Education
- Speaker: Catherine B. Junge, Ph.D.
 Education Program Specialist
 Health Occupations
 IVAE/DVE/Programs Branch
 Washington, D.C.
- 10:00-10:15 Break
- 10:15-11:15 Curricular and Instructional Concerns as Related to
 Novice Associate Degree Nursing Faculty
- Presenter: Elaine L. Mohn, R.N., Ed.D.
 Second-level Coordinator,
 Associate Degree Nursing Program
 Chemeketa Community College
 Salem, Oregon
- Reactor: Karen E. Gable, Ed.D.
- 11:15-11:30 Conference Communications
- 11:30-12:30 Luncheon
- P.M. Moderator: Beverly Richards, R.N., Ed.D.
 Associate Professor
 Health Occupations Education
 Penn State University
- 12:30- 1:30 Education Evaluation and Qualitative Research Design:
 Case Study Method
- Speaker: Jill Shedd, Ph.D.
 Assistant for Research & Development
 School of Education
 Indiana University

Thursday, April 7, 1988 (cont.)

- 1:30- 2:30 Changes in Policies/Procedures of Patient Care
Since 1985
Presenters: Janice R. Sandiford, R.N., Ph.D.
Associate Professor
Health Occupations Education
Florida International University
and Lorene Farris
Professor
School of Nursing
Florida International University
Reactor: Zona Weeks, Ph.D.
- 2:30- 2:45 Break
- 2:45- 3:45 Leadership Opinion Measures of Student Officers in
Health Occupations Students of America
Presenters: Norma J. Walters, R.N. Ph.D.
Associate Professor & Coordinator
Health Occupations Education
Auburn University
and James N. Wilmoth, Ph.D.
Professor, Research Consultant &
Statistician
Auburn University
Reactor: Beverly Richards, Ed.D.
- 3:45- 4:45 The Development of an Integrated Human Science
Course for Science Credit in the Indianapolis Public
Schools
Presenter: Rosie L. Hicks, MT. (ASCP), MAT
Curriculum Writer,
Health Professions Center
Indianapolis Public Schools
Reactor: Helen Swaincott, M.A.
- 4:45- 5:00 Conference Communications
- Evening Dinner and Social Activities on your own.

Friday, April 8, 1988

- 8:00- 8:30 Registration/Continental Breakfast
- A.M. Moderator: Norma J. Walters, R.N., Ph.D.
Associate Professor & Coordinator
Health Occupations Education
Auburn University
- 8:30- 9:00 Welcome
- Speaker: Carol Nathan, DTR, M.A.
Associate Dean of Faculties
Professor of Occupational Therapy
Indiana University-Purdue University
- 9:00-10:00 Multicompetency Education at Methodist Hospital of
Indiana, Inc. Research, Add-A-Comp Program
Implementation, and Results-to-Date
- Presenter: Sherry Makely, M.S., RT-R
Director, Add-A-Comp Program
Connelly Allied Health Education Center
Methodist Hospital of Indiana, Inc.
- Reactor: Mary Feeley, Ed.D.
- 10:00-10:15 Break
- 10:15-11:15 Hospice Care: Comprehensive and Compassionate Care
of the Terminally Ill
- Presenter: Gerald Holman, M.D.
Executive Director & Medical Director
St. Anthony's Hospice & Life
Enrichment Center
Amarillo, Texas
- Reactor: Norma Walters, Ph.D.
- 11:15-11:30 Conference Communications
- 11:30-12:30 Luncheon
- P.M. Moderator: Janice R. Sandiford, R.N., Ph.D.
Associate Professor
Health Occupations Education
Florida International University
- 12:30- 1:30 Advanced Statistical Applications Using Manova
- Speaker: Golam Mannan, Ph.D.
Associate Professor
School of Education
Indiana University

Friday, April 8, 1988 (cont.)

1:30- 2:30 A Computerized Curriculum Planning System for
Health Occupations Education
Presenter: Beverly Richards, R.N. Ed.D., et. al.
Associate Professor
Health Occupations Education
Penn State University
Reactor: Janice Evans, M.S.

2:30- 2:45 Break

2:45- 3:45 Patient's Psychological Adaptation to Chronic
Illness: Preliminary Findings
Presenters: Karen E. Gable, RDH, Ed.D.
Coordinator
Health Occupations Education
Indiana University
and Pamala J. Suter, B.S., R.D.
Graduate Student, Indiana University
Reactor: Bererly S. Richards, R.N., D.N.Sc.

3:45- 4:15 Future Planning Meeting

4:15- 4:30 Evaluation and Adjournment

Second National Health Occupations Research Conference
Indiana University
Indianapolis, Indiana
April 7-8, 1988

Co-Sponsors

Karen Gable, RDH, Ed.D.
Assistant Professor
Health Occupations Education
Indiana University, Ball # 129
1100 West Michigan Street
Indianapolis, IN 46223

Beverly Richards, R.N., Ed.D.
Associate Professor
Health Occupations Education
104 Rackley Building
Penn State University
University Park, PA 16802

Norma J. Walters, R.N., Ph.D.
Associate Professor & Coordinator
Health Occupations Education
Auburn University
Auburn, AL 36849

HEALTH OCCUPATIONS EDUCATION NATIONAL RESEARCH CONFERENCE

RESEARCH REVIEWERS

Ronald E. Dehnke, Ed.D.
School of Education
Indiana University

Terry O'Brien, Ph.D.
Assistant Professor & Coordinator
Graduate Studies in Marketing
Education
Auburn University
Auburn, AL 36849

Milfird Rosendahl, BSN, MS
Consultant Health Occupations
Education (Retired)
Iowa Department of Education

Mary Thompson, Ed.D.
Assistant Professor
Trade & Industrial Education
Auburn University
Auburn, AL 36849

Janet Evans, RN, M.Ed.
Graduate Student
Vocational Education
Pennsylvania State University

Charlotte A. Pitts, R.N., Ed.D.
Assistant Professor & Coordinator
Adult Health
Auburn University
Auburn, AL 36849

Helen K. Swaincott, M.Ed.
Program Specialist
Health Occupations Education
Pennsylvania Dept. of Education

Sandra K. Wilkins, Ed.D.
Assistant Professor & Coordinator
Undergraduate & Graduate
Home Economics Education
Auburn University
Auburn, AL 36849



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE ASSISTANT SECRETARY
FOR VOCATIONAL AND ADULT EDUCATION

April 6, 1988

Hello! I salute you who are attending the second biennial Health Occupations Education National Research Conference. I regret that I am unable to be with you in person. I bring you greetings from Dr. Bonnie Guiton, Assistant Secretary for Vocational and Adult Education, and my supervisors, Dr. Winifred Warnat and Dr. John Baird.

I am excited about the convening of this second research conference. Research related to technical and vocational health occupations education is greatly needed and your presence indicates that you are aware of this need. Data from the U.S. Department of Labor indicate that about 65 % of health care workers receive their basic preparation at the technical and vocational levels. Therefore, we are working with a large population of students and workers and a sizable number of health care education programs. Other Department of Labor data indicate that the need for health care providers at all levels is expected to increase. More and more persons are concerned with the increasing demand for health care services and health care providers, including the U.S. Congress.

In December 1987 Congress attached to the Omnibus Budget Reconciliation Act a section relating to health care provided in skilled nursing homes and in the home. Much of the language in the section deals with the right of nursing home residents to safe, effective care and describes a mechanism

Dr. Catherine B. Junge
Health Occupations Education Specialist
Division of Vocational Education
615 Reporters Building
Washington DC 20202-5613

for appeal, if the patient/client or family feels that safe, effective care is not forthcoming. To assure the presence of competent health care providers, language was included relating to minimum training requirements for persons providing patient care in skilled nursing homes and in the home.

Congress is considering other legislation relating to health care and health care personnel. These activities indicate a national concern for health care and for provision of an adequate number of well prepared health care workers.

Among the current issues being addressed by the Congress are:

- Rising health care costs
- Reimbursement of health care costs
- Balancing the federal budget
- Long term health care
- Catastrophic health care
- Mandated health benefits
- Care for victims of AIDS
- Funds to assess the nursing shortage

The major bases for nursing home and home health care legislation were recommendations made in a National Academy of Science, Institute of Medicine, study of long term health care. Use of these recommendations in drafting legislation illustrates the value of research to document present conditions and to make recommendations for action or further study.

Now is a time of great challenges in health care education. Valid research is needed in order to meet these challenges and to plan intelligently for the future. Decisions based on documented research are more likely to prove successful than those based on inadequate information.

In addition to the growing need for additional health care personnel, the Department of Labor projections also indicate an expanding role for personnel

at the technical level. At the same time health occupations technical and vocational programs are facing cut-backs and/or closures due to cost squeezes and an increasing emphasis on general academic education. There is a need to document the effectiveness and efficiency of technical and vocational health occupations programs.

Health care education programs are facing decreases in enrollment. The enrollment declines are happening at all levels: professional, technical and vocational. There are several causes for enrollment declines: an aging population with fewer young people between the ages of eighteen and twenty-five; more opportunities for women, who make up over 80% of health care providers; the relatively high cost of health care education; relatively low salaries for health care workers; lack of career ladders for continuing workers; and, concern about the AIDS epidemic. Several other conditions are having an impact on health care delivery and on the training of health care providers.

An increasing aged population is demanding more health care.
New non-invasive diagnostic methods have made many previous procedures obsolete.

Health care technology is changing treatment methods for many disease conditions.

The delivery of health care is becoming more diverse--in addition to acute care hospitals and nursing homes, we have surgical centers, neighborhood health centers and home care agencies.

The changes taking place in the delivery of health care and in the education of health care providers present many opportunities for research studies--whether descriptive, experimental or quasi-experimental. Among research questions that could be pursued are:

What types of curricula are being used for high school health occupations programs that are not occupationally specific? What are the follow-up findings from these programs relative to employability and articulation with postsecondary health occupations education programs?

How does retention rate, in the health field, compare between persons trained at the technical and vocational levels compared with those completing a higher education program?

Is the attrition rate in postsecondary health occupations programs less if the student has completed a high school health occupations program? How does the attrition rate compare for students moving from a technical or vocational program to a baccalaureate program?

What are the best methods for recruiting students into health care education programs? Are high school health occupations programs effective recruiters for postsecondary programs?

Is there valid evidence of "institutional loyalty" among persons whose advanced education and training have been financed/encouraged by their employer?

What are the most effective curriculum methods for preparing health care workers?

These are just a few of the questions that need to be answered and I'm sure you can think of many others.

This is a stimulating and challenging time to be involved in technical and vocational health occupations education. Developments in health care science and technology and changes in the health care delivery system call for changes in curricula and program management. What changes are needed and what is the best method of achieving these changes? The demands for increasing health care services and health care personnel are contrasted with a decrease in student enrollment and, in some cases, decreases in funding. Issues involved in health care and health care personnel have captured the attention of many persons in policy and decision making positions, including those in Washington DC.

I'm sure you will be stimulated by the presentations being given during the two day conference. I am looking forward to reading the studies presented

in the conference report. As pioneer researchers in the field of technical and vocational health occupations, I commend you for your persistence and challenge you to continue your research activities and strive to involve others in this emerging research field.

CURRICULAR AND INSTRUCTIONAL CONCERNS AS RELATED
TO NOVICE ASSOCIATE DEGREE NURSING FACULTY

Elaine L. Mohn, R.N., Ed.D.
Second-level Coordinator
Associate Degree Nursing Program
Chemeketa Community College
4000 Lancaster Drive N.E.
Salem, Oregon 97309
(503) 399-5256

CURRICULAR AND INSTRUCTIONAL CONCERNS AS RELATED
TO NOVICE ASSOCIATE DEGREE NURSING FACULTY

Elaine L. Mohn¹

Abstract: The twofold purpose of this study was determining the concerns novice associate degree nursing faculty have about their new role as educators and determining the effectiveness of community college staff development programs in meeting their concerns. Novice faculty and directors of associate degree nursing programs in community colleges registered their perceptions of the degree of importance and the degree of effectiveness of each of the thirty curricular and instructional concerns. A questionnaire was sent to 250 randomly selected associate degree nursing programs in the United States. Based on the findings of the t-test, the conclusions were that all thirty concerns are important for the novice nursing educator; on a national level community college staff development programs are ineffective in meeting the curricular and instructional concerns of novice nursing educators; and novice faculty lack consistent assistance for developing their teaching role in associate degree nursing programs.

¹Elaine L. Mohn, R.N., Ed.D., is a Nursing Instructor and Second-level Coordinator of the Associate Degree Nursing Program at Chemeketa Community College.

Novice associate degree nursing (ADN) faculty have concerns about their new role as educators that may or may not be perceived similarly by the directors of nursing in ADN programs in community colleges. Further, staff development programs in community colleges offering ADN programs may or may not be addressing the concerns of novice nursing faculty.

Background of the Problem

Associate degree nursing faculty in community colleges have varied educational preparation. The National League for Nursing (1977) required nursing faculty to possess at least a baccalaureate degree in nursing and preferably a master's degree in nursing, but has not required a minimum background in teaching theory. Because teaching theory has not been emphasized, most novice nursing faculty members employed in a community college setting have entered their employment with minimum skills to perform the educator role. Edgil (1981) stated that nursing faculty need programs to renew and update their skills as educators, but these programs have not been stressed. Moreover, community colleges, as the employing institutions, offered general staff orientations but the staff development programs within these colleges did not address the teaching concerns of novice ADN faculty.

Review of Literature

Dilemmas in Faculty Preparation

Because clinical specialization is stressed in graduate nursing programs, the preparation of future nursing faculty to assume the educator role is varied and generally a minimal focus of such programs. Graduate students who elect the educator functional role may be required to complete a maximum of 3 to 4 education or education-related courses. Teaching practicums are often

optional rather than required. The underlying philosophical belief is expressed by Kelley (1981), "In many professions, such as law, theology and medicine, teachers appear to be able to teach without formal teaching in the teaching process (p. 11)."

Nursing faculty should be required to be proficient in nursing and education. Stevens (1981) believes "Without formal preparation in the discipline of education, however, the nurse would not be nearly as adept at mastering this secondary discipline (p. 1)." Davis and Williams (1985) add that "clinical and scientific preparation alone does little in preparing nurse faculty to function in an academic setting (p. 20)." Nurses need a sound background in educational foundations because all nurses teach whether the groups they teach are patients or students. "It is a rare person who could feel competent and at ease teaching without thorough preparation as a teacher (Miller, 1976, p. 752)."

Finding nurse faculty specifically prepared to teach in ADN programs has been a long-standing problem. Heller (1982) believes that the lack of adequately prepared faculty for the community college setting is occurring for two reasons. First, few graduate nursing programs feel an obligation to prepare future faculty for ADN programs. Second, graduate students perceive that greater prestige could be obtained if they prepare to teach in a BSN program.

Nursing faculty employed in community colleges need preparation as community college educators for several reasons. First, to teach in a community college, educators need an awareness of their students' unique characteristics. Associate degree nursing students have a mean age of thirty and have had a wide range of prior education and life experiences. This type

of student requires educators who are willing to alter their philosophy of teaching and learning to enhance this student's success. Second, nursing faculty in a community college are expected to assume a generalist role in the clinical setting. Faculty often prefer to teach their nursing speciality rather than assume the generalist role. Finally, many ADN educators lack a clear understanding of the community college mission and a commitment to the associate degree nursing philosophy and objectives (Heller, 1982).

Faculty Teaching Concerns

Several prime concerns have come to the forefront when the dilemma of novice nursing faculty is considered. University nursing faculty are required to be teachers, clinical practitioners, researchers, and members of the academic community. In addition, faculty are expected to publish, whereas community college nursing faculty are not expected to assume the research role or to publish. However, with the multiplicity of expected roles, role identification becomes an important issue for the novice faculty member regardless of the setting. Trying to achieve balanced productivity in teaching, research, and service significantly contributes to the faculty's ability to adapt successfully (Barley and Redman, 1979).

"Nursing faculty have greater difficulty than faculty from other disciplines in establishing and succeeding in a academic career (Davis and Williams, 1985, p. 20)." Furthermore, an employee's satisfaction during the first year of teaching is related to "the degree in which an individual is made to feel a part of the group or organization (Becker, 1981, p. 5)"

Two factors seem to be significant in influencing the socialization process of new nursing faculty. First, usually new faculty attend a one week orientation at the beginning of the academic year. This orientation focuses

on understanding the institution's governance structure, teaching load, class schedule, and value system. However, new faculty begin to experience information overload by the second week of employment (Conway and Glass, 1978). Subsequently, new faculty members focus on facts necessary for daily survival and the information that could have assisted in their socialization is soon forgotten. Second, within a few months the novice is expected to perform duties similar to a veteran faculty member. Senior nursing faculty encourage their junior colleagues but seldom assist the new faculty to learn the multiple roles because of their own workloads.

Norman and West (1984) discovered that inexperienced faculty as well as experienced faculty tend to cluster together in their respective groups. With neither group engaging in a formal or informal exchange of information, the novice is lost at the fringes of possible faculty development networks. The lack of socialization causes many novice nursing faculty to leave the education profession.

Because teachers have a profound ego involvement in their teaching, the perception of how effectively they are teaching ultimately affects their success. Students of today are more critical of teachers' abilities to communicate the essential points of a lesson. When beginning nursing faculty enter the academic setting unprepared for the educator role, perceptions of ineffectiveness and students' criticisms cause frustration and anger to build to insurmountable levels. A sense of failure rapidly develops compounding the role confusion and often threatening an entire teaching career.

Novice and experienced nursing faculty believe some of their greatest teaching problems are selection of learning experiences and classroom techniques, interpersonal relationships, insufficient time, and classroom

insecurity. In addition, designing examinations and developing behavioral objectives for theory and clinical courses are difficult areas for nursing faculty.

Few guidelines exist for nursing faculty to teach in the clinical setting. Faculty continually strive to develop the appropriate evaluation instrument for the student's clinical experience. Initially nurse educators are overwhelmed by the public relations necessary at the clinical site, the mechanics of managing students, and the planning of clinical assignments. Frequently, new faculty find themselves in conflict over meeting the needs of students and providing nursing care to patients. Clearly new faculty face continual challenges in assuming an academic position.

Faculty Development Concerns

The answer of who is responsible for assisting the novice and what is the best assistance remains unclear. Nursing administrators are unsure of how faculty development activities should be implemented. Bryson (1980) submits that faculty development requires a partnership between the faculty member and the director of nursing: Administration incurs an obligation to provide the necessary resources, while nursing faculty are required to use the available resources.

Novice faculty may be influenced by their senior colleagues to pursue faculty development activities that would enhance their clinical skills rather than identifying potential teaching deficiencies. "The antipathy of many faculty members toward anything tainted by pedagogy has been one of the major themes in higher education (Hipps, 1978, p. 693)." If faculty do not value teaching or perceive themselves as being primarily educators, they will not spend time learning new teaching techniques or alternative instructional

methods. These faculty may become suspicious of efforts to teach them how to be better educators. Moreso, if graduate nursing programs do not stress the importance of pedagogical skills and knowledge, faculty are less than enthusiastic to embrace these concepts once in academia.

Nursing faculty in community colleges are expected to manage diverse student populations. Contrary to administrative belief, not all faculty are prepared to handle this diversity. By 1979 only 35 - 40 percent of all community colleges had established general staff development programs (Smith, 1979). In addition, community college leaders do not articulate a uniform stance on faculty development. Administrators are more concerned about staff development activities relating to the clientele served, whereas teachers place an emphasis on understanding their cognate fields (Hunter and Beyen, 1979). Community colleges have done a commendable job "in meeting the human resource development needs of business and industry; yet, they have ignored their own staff's needs (Bender and Lukenbill, 1984, p. 17)."

Community college administrators and nursing leaders assume their faculty will carry out a self-directed program of development as part of their professional responsibility. With pressure to demonstrate clinical competency and with limited faculty development programs, ADN faculty have difficulty developing their educator role.

Purpose

The twofold purpose of this study was to (1) determine the degree of importance of the curricular and instructional concerns as perceived by novice nursing faculty and directors of nursing of associate degree nursing programs in community colleges in assuming the educator role; and (2) determine the degree of effectiveness of staff development programs in

community colleges in meeting the curricular and instructional concerns perceived by the directors of nursing and the novice nursing faculty in ADN programs.

Hypotheses and Research Question

Four hypotheses were tested:

1. There are no significant differences in the degree of importance of the curricular and instructional concerns as perceived by the directors of nursing and the novice nursing faculty of ADN programs in community colleges.
2. There are no significant differences in the degree of effectiveness of the staff development programs in community colleges in meeting the curricular and instructional concerns as perceived by the directors of nursing and the novice faculty of ADN programs.
3. There are no significant differences in the degree of importance of the curricular and instructional concerns and the degree of effectiveness in meeting the curricular and instructional concerns as perceived by the directors of nursing.
4. There are no significant differences in the degree of importance of the curricular and instructional concerns and the degree of effectiveness in meeting the curricular and instructional concerns as perceived by the novice nursing faculty.

One research question was examined for this study:

What are community college staff development programs doing to meet the curricular and instructional concerns perceived by the directors of nursing and the novice nursing faculty in ADN programs? Attention was directed toward the responses of the directors and novice faculty where they had indicated the maximum degree of effectiveness in meeting the curricular and

instructional concerns.

Definitions

For purposes of clarity and use within the study, the following terms were defined--novice ADN faculty, formal educational institution, and faculty development. Novice ADN faculty have less than two years of teaching experience in a formal educational institution and are full-time faculty. A formal educational institution is a state approved and accredited school of nursing. Patient education and continuing education activities in a hospital setting were considered an informal setting. Faculty development refers to all those activities designed to improve faculty performance in all aspects of their professional lives--as teachers, scholars, and as contributors to institutional decisions (Nelsen, 1979, p. 142).

Method and Procedures

A descriptive method of research was used in identifying the degree of importance of curricular and instructional concerns among novice nursing faculty and among the directors of nursing in ADN programs in community colleges. The degree of effectiveness of staff development programs in community colleges was determined for meeting curricular and instructional concerns as perceived by the directors of nursing and the novice nursing faculty in ADN programs.

Sample Selection

The population consisted of 593 ADN programs in the United States, which were classified as such by their administrative control of junior or community college or technical institute in the National League for Nursing's State Approved Schools of Nursing R.N. booklet (1985). Membership in the National League for Nursing was not considered a factor in selecting the

population.

The National League for Nursing identified four geographic regions within the United States and placed the states and their respective nursing programs in one of the four regions. The Southern and Midwest regions had the largest number of ADN programs in community colleges, while the Western and the North Atlantic regions had the least number. The five territories of American Samoa, Canal Zone, Guam, Puerto Rico, and the Virgin Islands were excluded from the population for this study.

An alphabetical listing of the ADN programs in each geographic region was prepared. The same percentage of programs was selected from each of the four geographic regions. A stratified random sampling technique was used to select the sample of 250 ADN programs in which the directors and novice faculty constituted the subjects of the research.

Instrumentation

Twenty-six curricular and instructional concerns that novice ADN faculty might have pertaining to their role as educators were compiled following a review of literature. For the purpose of determining content validity, thirty-four ADN directors and faculty from three Oregon community colleges, who were not selected in the sample, reviewed the compiled list of curricular and instructional concerns. Based on the considered judgement as well as a 90% consensus of these individuals, the original twenty-six curricular and instructional concerns were revised and four new concerns were added.

The internal consistency of the instrument was determined by using the coefficient alpha equation. Polit and Hungler (1983) believed the Cronbach Alpha is the preferred measure of reliability for questionnaires. The coefficient alpha yielded a reliability of .86.

Curricular and Instructional

Below are listed the thirty curricular and instructional concerns:

1. Developing an instructional unit.
2. Determining content for a course.
3. Developing a course syllabus.
4. Developing student performance objectives.
5. Selecting teaching techniques for an instructional unit.
6. Determining student learning experiences for an instructional unit.
7. Selecting audio-visual equipment.
8. Organizing a classroom presentation.
9. Identifying students' different learning needs.
10. Selecting textbooks and other instructional materials.
11. Establishing criteria for evaluating student performance in the classroom.
12. Determining classroom evaluation procedures of student performance.
13. Developing written examination questions.
14. Establishing relationships with clinical settings.
15. Making student clinical assignments.
16. Establishing criteria for evaluating student performance in the clinical setting.
17. Evaluating student clinical performance.
18. Identifying students who need special academic assistance.
19. Referring students for tutoring assistance.
20. Working with other instructors to assist students with academic problems.
21. Working with:
 - a. ethnic minority students
 - b. non-English speaking students

22. Conducting student academic conferences.
23. Developing working relationships with students.
24. Integrating exit level competencies into clinical instruction.
25. Developing your teaching role in the clinical setting.
26. Evaluating your own instructional effectiveness.
27. Implementing a professional philosophy of teaching.
28. Developing effective team relationships with your nursing faculty peers.
29. Identifying your institution's administrative hierarchy.
30. Identifying your role with the institution at large.

A questionnaire containing the thirty curricular and instructional concerns was developed and copies were sent to directors and novice faculty in 250 associate degree nursing programs. A four-point Likert scale was used by the subjects in registering their perceptions of the degree of importance and the degree of effectiveness of each of the thirty curricular and instructional concerns. The four-point scale ranged from one, of no importance or effectiveness, to four, of greatest importance or effectiveness. An open-ended statement was included so the respondents could share a description of what their institution was doing to resolve the curricular and instructional concerns. The directors and all novice faculty were asked to complete and return their questionnaires in an enclosed, self-addressed, stamped envelope within two weeks of receiving the survey. Each envelope was coded for follow-up purposes while at the same time maintaining anonymity. In order to acquire data from non-respondents to the first mailing, a second mailing followed three weeks after the first. Questionnaires were returned from directors and novice faculty in 72 percent of the ADN programs following the first and second mailings. The sizes of the population, sample, and

respondents are depicted in Table 1.

Table 1

Population and Sample Used in the Study of Curricular and Instructional
Concerns as Related to Novice ADN Faculty in Fall 1986

States	Associate Degree Nursing Programs			Directors		Novice Faculty	
	Popula- tion n	Sample n %	Respon- dents n	Respon- dents n %	Respon- dents n %		
Alabama	14	5 2.0	3	3 1.8	0	0	
Alaska	1	0 0	0	0 0	0	0	
Arizona	12	5 2.0	4	4 2.4	1	1.4	
Arkansas	6	4 1.6	4	3 1.8	5	6.8	
California	65	30 12.0	16	14 8.4	4	5.4	
Colorado	5	3 1.2	1	0 0	0	0	
Connecticut	4	2 .8	1	1 .5	0	0	
Delaware	2	2 .8	0	0 0	0	0	
Florida	25	12 4.8	12	10 6.0	7	9.4	
Georgia	11	5 2.0	4	4 2.4	1	1.4	
Hawaii	3	1 .4	1	1 .5	0	0	
Idaho	4	2 .8	1	1 .5	0	0	
Illinois	33	12 4.8	9	9 5.4	2	2.7	
Indiana	4	3 1.2	2	2 1.2	0	0	
Iowa	19	8 3.2	5	5 2.9	5	6.8	
Kansas	15	6 2.4	4	4 2.4	0	0	
Kentucky	10	4 1.6	4	4 2.4	3	4.0	
Maine	3	2 .8	0	0 0	0	0	
Maryland	14	5 2.0	4	4 2.4	2	2.7	
Massachusetts	18	8 3.2	5	5 2.9	1	1.4	

(table continues)

Table 1 (continued)

States	Associate Degree Nursing Programs			Directors		Novice Faculty	
	Popula- tion n	Sample n %	Respon- dents n	Respon- dents n %	Respon- dents n %		
Michigan	27	13 5.2	13	12 4.1	3 4.0		
Minnesota	12	7 2.8	4	4 2.4	0 0		
Mississippi	12	4 1.6	3	3 1.8	1 1.4		
Missouri	12	3 1.2	3	3 1.8	3 4.0		
Montana	1	0 0	0	0 0	0 0		
Nevada	3	1 .4	0	0 0	0 0		
New Hampshire	5	3 1.2	3	3 1.8	2 2.7		
New Jersey	12	2 .8	0	0 0	0 0		
New Mexico	5	2 .8	2	2 1.2	3 4.0		
New York	39	15 6.0	8	7 4.2	3 4.0		
North Carolina	38	13 5.2	12	11 6.6	5 6.8		
Ohio	18	4 1.6	2	2 1.2	0 0		
Oklahoma	13	4 1.6	3	2 1.2	2 2.7		
Oregon	12	3 1.2	3	3 1.8	2 2.7		
Pennsylvania	18	8 3.2	4	4 2.4	1 1.4		
Rhode Island	2	1 .4	0	0 0	0 0		
South Carolina	6	2 .8	2	2 1.2	2 2.7		
Tennessee	9	8 3.2	8	7 4.2	4 5.4		
Texas	31	13 5.2	13	11 6.6	6 8.1		
Virginia	13	6 2.4	4	4 2.4	0 0		
Washington	15	6 2.4	5	4 2.4	3 4.0		
West Virginia	4	2 .8	2	2 1.2	2 2.7		

(table continues)

Table 1 (continued)

States	Associate Degree Nursing Programs			Directors		Novice Faculty		
	Popula- tion n	Sample n	%	Respon- dents n	Respon- dents n	%	Respon- dents n	%
Wisconsin	14	9	3.6	5	5	2.9	1	1.4
Wyoming	4	2	.8	2	2	1.2	0	0
Total	593	250	100	181	167	100	74	100

Note. Six states, Louisiana, Nebraska, North Dakota, South Dakota, Utah, and Vermont had ADN programs, but were ineligible for the population because they did not meet the selection criteria.

Analysis

A t-test, based on differences of mean ratings of importance and effectiveness, was used to test for statistical significance with regard to each hypothesis as applied to each of the thirty concerns. The .05 level of confidence ($p < .05$) was used to determine statistical significance. The data from the open-ended statement did not require a statistical test.

Findings, Conclusions and Recommendations

Hypothesis one, stating that there are no significant differences in the degree of importance of the curricular and instructional concerns as perceived by the directors of nursing and novice nursing faculty of ADN programs in community colleges, was rejected with respect to four concerns. The directors perceived the concern, determining classroom evaluation procedures of student

performance, as being significantly more important than did the novice faculty. The test of differences between the directors and the novice faculty resulted in a t value of 2.05, which was significant at $p < .05$. The three concerns, developing your teaching role in the clinical setting, selecting textbooks and other instructional materials and evaluating your own instructional effectiveness, were considered by the novice faculty to be significantly more important. The respective t values were -2.09, -2.52, and -4.39, which were significant at $p < .05$. In all other tests for significant differences, none were found.

Hypothesis two, stating that there are no significant differences in the degree of effectiveness of the staff development programs in community colleges in meeting the curricular and instructional concerns as perceived by the directors of nursing and the novice nursing faculty of ADN programs, was rejected with respect to sixteen concerns. The sixteen concerns which are significant at $p < .05$ are presented in Table 2.

Hypothesis three, stating that there are no significant differences in the degree of importance of the curricular and instructional concerns and the degree of effectiveness in meeting the curricular and instructional concerns as perceived by the directors of nursing, was rejected with respect to all thirty concerns. Examples of the greatest differences in the degree of importance and the degree of effectiveness as perceived by the directors are noted regarding the following four concerns: organizing a classroom presentation, developing your teaching role in the clinical setting, determining student learning experiences for an instructional unit, and developing written examination questions.

Hypothesis four, stating that there are no significant differences in the

Table 2

Directors' and Novice Faculties' Perceptions of Effectiveness of Community
College Staff Development Programs for the Sixteen Significant Concerns: 1986

Curricular and Instructional Concerns	Respon- dents*	Mean** Rating	t
Developing an instructional unit	D F	2.57 2.92	-2.48
Determining content for a course	D F	2.69 3.38	-4.66
Developing a course syllabus	D F	2.78 3.07	-2.00
Developing student performance objectives	D F	2.75 3.09	-2.54
Determining student learning experiences for an instructional unit	D F	2.60 2.91	-2.35
Selecting textbooks and other instructional materials	D F	2.41 2.70	-2.20
Establishing criteria for evaluating student performance in the classroom	D F	2.60 3.00	-3.04
Establishing relationships with clinical settings	D F	2.73 3.00	-2.01
Establishing criteria for evaluating student performance in the clinical setting	D F	2.67 2.95	-2.03
Referring students for tutoring assistance	D F	2.81 3.05	-2.30
Working with other instructors to assist students with academic problems	D F	2.63 2.95	-2.14
Conducting student academic conferences	D F	2.50 2.81	-2.52
Evaluating your own instructional effectiveness	D F	2.58 2.91	-2.68

(table continues)

Table 2 (continued)

Curricular and Instructional Concerns	Respondents*	Mean** Rating	t
Implementing a professional philosophy of teaching	D F	2.49 2.78	-2.15
Developing effective team relationships with your nursing faculty peers	D F	2.63 3.08	-3.34
Identifying your institution's administrative hierarchy	D F	2.68 3.08	-3.19

Note. *D = Directors n = 167 F = Novice Faculty n = 74

**Mean rating is based on a four-point scale, e.g., of greatest effectiveness -- 4, 3, 2, 1 -- of no effectiveness degree of importance of the curricular and instructional concerns and the degree of effectiveness in meeting the curricular and instructional concerns as perceived by the novice nursing faculty, was rejected with respect to twenty-seven concerns. Examples of the largest significant differences in the degree of importance and the degree of effectiveness as perceived by the novice faculty are noted regarding the following four concerns: developing your teaching role in the clinical setting, evaluating your own instructional effectiveness, evaluating student clinical performance, and organizing a classroom presentation.

The research question, asking what are community college staff development programs doing to meet the curricular and instructional concerns perceived by the directors of nursing and the novice nursing faculty in ADN programs, elicited the following responses. Twenty directors stated that

4. General perceptions of effectiveness/ineffectiveness of staff development departments and programs in community colleges are not localized but rather are found on a national level.

5. Although nursing departments had assumed partial responsibility for implementing faculty development activities and orienting new faculty, novice faculty lack consistent assistance for developing their teaching role in ADN programs.

Recommendations

The following recommendations are made based on the data acquired during the study and the conclusions. It is recommended:

1. That directors of nursing, novice nursing faculty and administrators in community colleges enhance existing staff development programs or create new staff development programs at community colleges where none exist. The focus of attention needs to be on the concerns that directors and novice faculty have regarding the teaching role of novice nursing faculty. Examples of the procedures that could be used to implement this recommendation include:

a. Delegates representing the directors, novice nursing faculty, and community college administrators would attend a national four day workshop involving the leading experts from the National League for Nursing's Council of Associate Degree Programs and the American Association of Community College and Junior College's Council of Staff, Program, and Organizational Development. The workshop would focus on analyzing and prioritizing the curricular and instructional concerns of novice nursing faculty as well as compiling a comprehensive list of instructional materials for assisting novice faculty.

b. A brainstorming session would be held to determine nursing and

their institutions did not have a staff development department, whereas six colleges offered general in-service activities related to the improvement of educational skills.

Twenty-eight directors had assumed responsibility for faculty development by planning faculty workshops which focused on such topics as developing test questions. Experienced nursing faculty were used by twenty-four nursing departments to assist new faculty members in the orientation process, which varied in the length and focus.

In contrast, four directors believed that new faculty did not receive planned guidance or assistance for developing their teaching role. Six directors stated that new nursing faculty with a master's degree in nursing should be capable of assuming the educator role without further assistance.

Twelve novice faculty affirmed that minimal orientation programs had been provided for them. The community college in-service activities lacked applicability for teaching in a nursing program. Assistance from colleagues or directors of nursing was cited by eleven novice faculty as being the most valuable support in developing their teaching role.

Conclusions

The following conclusions are based on the findings of the study:

1. All thirty curricular and instructional concerns are of importance to the novice nursing educator in a community college ADN program.
2. Community college staff development programs are ineffective in meeting the needs of novice nursing educators.
3. Community college staff development programs need to place their emphasis on the concerns that are not being met effectively while continuing to address the concerns that are being met effectively.

community college educators who could facilitate developing the novice's teaching role and to specify methods for implementing cost-effective staff development programs in community colleges.

2. That directors of associate degree nursing programs develop formal orientation programs within the nursing department for novice nursing faculty. An orientation program could be of two weeks duration and could be conducted prior to beginning employment in the fall. The program would include the following topics: the development of written examination questions, the evaluation of students in the classroom and clinical setting, the selection of teaching techniques, the identification of students' different learning needs, the development of one's teaching role in the clinical setting, and a discussion of the nursing department's philosophy of nursing and teaching.

3. That ADN programs' directors meet with the directors of graduate nursing programs to resolve the identified differences in the preparation of future faculty and the entry-level teaching concerns of novice nursing faculty.

4. That a study be conducted on the effects novice nursing faculty's teaching has on student learning inasmuch as the ultimate impact of such instruction is on the student.

5. That this study be replicated by other health occupations education professions.

Although it is intended that the results of this study will be used by directors of ADN programs, staff development personnel in community colleges, and community college administrators in planning and implementing faculty development programs appropriate for ADN faculty, the significance of this study is not limited to the nursing profession. Novice faculty from other health occupations education professions may be experiencing the same

confusion and uncertainty. It is further intended that this study will assist all novice faculty in clarifying and developing their role as educators.

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COMPARATIVE LOOK AT THREE APPROACHES
TO CONDUCTING A CASE STUDY

Jill D. Shedd, Ph.D.
Indiana University
School of Education
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INTRODUCTION

As a research method, the case study has been a part of most social sciences research for some time; including more traditional disciplines such as anthropology, sociology and economics and more practice-oriented areas such as education and public policy. A diverse array of reports and research endeavors has been categorized as case studies. The question arises what exactly is a case study and how does one "do" a case study.

Overall, the objective of this paper is to provide pragmatic guidelines to researchers as to selection of a specific case study method. The paper will include a description of three different references to case study methodology; focusing on single case site studies. These references were selected as those to which education students are most commonly referred for information about case studies. These books are:

- 1) Lincoln, Y.S. & Guba, E.G. Naturalistic inquiry. Beverly Hills, CA: Sage Publications, 1985.
- 2) Miles, M.B. & Huberman, A.M. Qualitative data analysis. A sourcebook of new methods. Beverly Hills, CA: Sage Publications, 1984.
- 3) Yin, R.K. Case study research. Design and methods. Beverly Hills, CA: Sage Publications, 1984.

These three approaches will be discussed in terms of their research orientation and design specifications, support for validity and reliability, data collection process, means of data analysis, and case study report guidelines. Along with the discussion of these different methods highlighting their commonalities and differences, their basic features will be graphically

displayed to provide a simple, succinct reference to the various ways to conduct a case study.

WHAT IS A CASE STUDY?

Yin (1984) defines a case study as an empirical inquiry that:

- investigates a contemporary phenomenon within its real-life context; when
- the boundaries between phenomenon and context are not clearly evident; and in which
- multiple sources of evidence are used (p. 23).

A case study is NOT simply synonymous with qualitative or naturalistic inquiry. Yin (1984) writes that case studies are not limited to qualitative research conditions nor do they necessarily meet the specifications of qualitative research.

Table 1 indicates three different definitions of a case study. A review of these definitions points out that a case study may be viewed as a research strategy or as the product of a particular process of inquiry. Both Yin (1984) and Miles and Huberman (1984) refer to a case study as a specific research strategy to address particular kinds of research questions, questions to be studied in real-life context. In contrast to the concept of a research strategy, Lincoln and Guba (1985) view a case study as a product, the end result of a particular process of inquiry. Overall, the actual results of each of these methods may not appear very different.

The orientation to the case study as a research strategy versus the product of a particular form of inquiry leads to different ways in which the case study is designed. Considering a case study as a research strategy, Yin (1984) and Miles and Huberman (1984) describe a case study design as driven by the specific research questions at hand. To illustrate, Yin (1984) suggests that a case study begins with specific case study questions to be investigated during the research. Similarly, Miles and Huberman (1984) write that a case study begins with a conceptual framework which delineates the key factors to be studied and their presumed relationships, as well as specific research questions which focus the investigation around the variables outlined in the conceptual framework. The result for both methods is a case study design that is structured and detailed prior to the start of the research.

In contrast, the design of the research process described by Lincoln and Guba (1985), which results in a case study, is driven by the axioms of naturalistic inquiry. Lincoln and Guba (1985) point out that the design can not be delineated prior to beginning data collection. In their views, the design must emerge from the data, while Yin (1984) and Miles and Huberman (1984) suggest the design emerges from the research questions. It must be noted that Lincoln and Guba include in their design a "focus", which may be the research question, that serves to bound the study and provide inclusion-exclusion criteria for data collection. The inclusion of a "focus" in Lincoln and Guba's research designs suggests their recognition of the need to begin study with some level of boundedness or direction, though perhaps at a level more general than that promoted by Yin, and Miles and Huberman.

Though proponents of naturalistic inquiry, in particular, may disagree, these different orientations to case studies as presented above are subtle. The distinctions lie in how specifically the research process is delineated prior to the start of the investigation and how open the design is to change once the research is begun. That a design is more structured prior to the start of the research does not necessarily infer that the research will be positivistic and/or more biased; it suggests that the research begins more focused. Pivotal to the ability to understand and to reconstruct the activities and relationships associated with a research question in a real-life context are the data collection and analytic techniques used, NOT necessarily whether the study begins focused on specific research questions,

or whether it begins loosely structured. As the discussion of the data collection process and means of data analysis will suggest, the actual research processes of these two general orientations are very similar. Each of the approaches to data collection and analysis maximizes the use of multiple sources of evidence to construct an understanding of the research question contextually. The differences between these two general orientations do not represent significant differences in the research techniques used nor necessarily in the subsequent analytic results.

CASE STUDY DESIGN

In general terms, the design of a case study incorporates the boundaries and plan of action associated with the specific research issue. As the discussion above suggests, there are differences in the structure of the case study design for each of the three approaches. Table I outlines the specific features of each design in terms of design concept, openness to change, and the actual design elements.

To varying degrees, each design includes criteria for bounding the study in terms of what is to be studied and what data are relevant. On a continuum of high to low specificity regarding the research focus, Yin's design is most specific, while Lincoln and Guba's is least specific.

The three designs diverge as to their openness to change once the design is structured. The level of openness to change is directly related to the general orientation of each case study

method discussed earlier. With a focus on research questions, Yin (1984) asserts that a design alteration can be made but only under stringent circumstances, e.g. the case thought to be unique is not, or a pilot study indicates design inadequacies. Yin (1984) states there is room to change the case selection, but efforts should be maintained not to alter the purpose or objective of the study to "fit" the case. In contrast, Lincoln and Guba (1985) assert that change in the research design is to be expected, for the design will only begin to take shape once data collection has begun. The specific research questions, i.e. which organizational features are impacting the situation under study, will emerge only after the researcher has begun to collect data.

A final point of distinction among the three design approaches is the elements a part of each design structure. All three include some reference to the data sources. As the general orientations would suggest, both Yin, and Miles and Huberman include the research questions in the design, whereas these are not pre-determined in the other approach. Only Lincoln and Guba, and Yin include plans for data analysis in their designs, with the former set of plans being more specific.

SUPPORT FOR VALIDITY AND RELIABILITY

Associated with the orientation to case studies discussed above, is the support for validity and reliability which each case study approach provides. Each of the research methods utilizes specific data collection techniques and forms of data analysis to support the validity of the conceptual constructs

presented in the final case report and the reliability of the research process. (see Table II)

The focus of the validity and reliability efforts relates to the respective orientation to case studies and consequently differs among the three approaches. On the one hand, Yin, and Miles and Huberman utilize specific data collection and analytic procedures to support the validity of the constructs and/or relationships identified through the study as they relate to the research questions posed at the start of the project. Lincoln and Guba, on the other hand, use particular techniques to substantiate the confirmability and credibility of the conceptual categories and propositions which emerged from the data. In naturalistic inquiry, the statistical terms of validity and reliability are not even appropriate. Instead, Lincoln and Guba (1985) use the terms confirmability, credibility, transferability, and dependability to convince readers of a naturalistic case study that the data have been collected as accurately as is humanly possible and that the conclusions drawn from the data analysis effectively represent a reconstruction of the activities/relationships at the site studied. They present an extensive discussion of these efforts and the techniques utilized to support the research findings. Of the three approaches, Lincoln and Guba seem to emphasize these activities to a greater extent, perhaps due to the fact that naturalistic inquiry is a newer research approach.

Given the diverse objectives of the validity and reliability process of Yin, and Miles and Huberman, as compared with the

confirmability and credibility process of Lincoln and Guba, there are striking similarities in the actual techniques used. Each of the case study methods relies on:

- multiple sources of evidence;
- data collection techniques like triangulation, member checking, and the use of informants;
- data analysis techniques which involve conceptual categories, clustering of data, explanation building;
- procedural logs and chains (or trails) of evidence as to how concepts and/or relationships were identified and supported; and
- use of journals or logs, as well as informant review of the case study report, as means of establishing construct validity (confirmability) and reliability (dependability).

Though the techniques used are similar, the difference among the three methods as to the underlying objective and processes to be validated or confirmed can not be dismissed, for they relate directly to the diverse research orientations. Yin, and Miles and Huberman strive to validate the concepts and research procedures to which the a priori case study questions directed the research. Whereas, Lincoln and Guba strive to confirm propositions which were drawn from the research data with little a priori focus or direction.

In addition to the differences in the underlying focus of the validity and reliability efforts, there are some individual differences among them. For example, Miles and Huberman are the only ones to include in their support of validity the concept of prediction. They suggest that from the conclusions drawn, resear-

chers should be able to predict the relationships or direction of activities at a site. They encourage researchers to do so and then return to the site or key informants in 6-12 months to check the accuracy of the prediction. Another point of difference among the three approaches lies in terms of internal validity/credibility. Yin, and Miles and Huberman seem to rely more on analytic techniques, whereas Lincoln and Guba include reference to data collection procedures.

DATA COLLECTION PROCESS

As suggested above, the data collection techniques of these three case study methods are very similar. To facilitate the discussion about data collection, the topic has been divided into four subcategories; emphases, phases, sources and techniques. The features of each method's data collection process have been outlined in Table III. For each case study approach there are varying amounts of information displayed regarding each subcategory which reflect the specific emphases and focus of the references used and not necessarily the importance or thought the authors have given to each subcategory. This point will be discussed further in terms of the helpful guidelines for "doing" different techniques. The intent of this section of the paper is to highlight the similarities and differences with regard to data collection among the three case study methods.

Emphases

The data collection process of the three case study methods includes analogous emphases which directly relate to the support

for validity and reliability of the research methods and thereby influence the sources of data considered and the types of data collection techniques utilized. For example, each method notes specifically or infers the value placed on multiple sources of data. Consequently, each method includes reference to interviews, observations and documentation as important sources of evidence.

To varying degrees, each method emphasizes the task of documenting the sources of all data. Yin (1984) refers to this task as the development of a case study data base, "... a formal retrieval data base ... from which other investigators can review the evidence directly" (p. 92), and maintenance of a chain of evidence. Lincoln and Guba (1985) stress a similar concept in the development of an audit trail, "a trail of materials assembled for the use of the auditor, metaphorically analogous to fiscal accounts" (p. 319). Miles and Huberman (1984) have developed a documentation form, in keeping with their emphasis on visual displays, to serve as a summation of analytic procedures. In addition to this analytic summary, they emphasize completion of another form which covers sampling, instrumentation, and data collection. The intent of both displays is to document the research procedures so that another researcher may reconstruct them and corroborate the process.

Both, Lincoln and Guba, and Miles and Huberman emphasize analysis during data collection which serves to organize information and to direct further data collection, while Yin focuses on data analysis only after the collection process is complete. Lincoln and Guba (1985) describe successive phases of data collection which begin with observations and open-ended inter-

views and then lead to more persistent observations and focused interviews. Similarly, Miles and Huberman provide detailed descriptions of processes to code and organize data as they are collected, in order to direct subsequent data collection and analysis.

Phases

The phases to data collection, in contrast to the emphases, are more varied among the three approaches and reflect the general orientations of each method. Yin's data collection begins with the development of a case study protocol which serves to focus data collection on the research questions. A protocol includes an overview of the project, a listing of general field procedures and rules, a list of specific case study questions to remind the researcher of necessary data and sources, and a guide for the case study report. In short, a protocol serves to direct and to maintain the focus of data collection and fieldwork on the research questions. Using Yin's method, closure of data collection is determined when the case study questions are answered, and the pre-determined array of data has been addressed.

In contrast, Lincoln and Guba approach data collection with exploratory, open-ended steps and evolve into more focused, in-depth data collection. Closure to Lincoln and Guba's data collection process is determined when new information becomes redundant with existing data.

The data collection procedures outlined by Miles and Huberman (1984) include elements of each of the other approaches. As noted earlier, fundamental to Miles and Huberman's data col-

lection is a continuous process of data analysis, which is similar to the concept of "exploratory - focused" data collection used by Lincoln and Guba. Miles and Huberman add to their data collection process the development and filling-in of a data accounting sheet which is a matrix of research questions/data codes and sources of information. This form of accounting is similar to Yin's concept of case study questions. In fact, Yin recommends use of one of Miles and Huberman's displays -- "table shells" -- in the case study protocol. These "table shells" are comparable to data accounting sheets. Closure to data collection using Miles and Huberman's approach is reached when the accounting matrix is complete.

Sources

As Table III indicates the sources of data used by each of the three case study approaches are very similar.

Techniques

The data collection procedures used in each of the three case study methods are comparable as indicated in Table III. For example, all of the methods include the use of interviews, document analysis, member checks, and methodological logs. These similarities reflect the comparabilities in support for validity and reliability which the research methods share. The only distinct data collection technique listed in Table III is the data coding used by Miles and Huberman.

DATA ANALYSIS

The concept of data analysis may be divided into two elements -- strategies, which incorporate the underlying principles of data analysis, and techniques, the procedures which make up the analytic process. Table IV illustrates these two elements of data analysis for each of the three case study methods.

Strategies

The strategies of each data analysis method do vary in ways which derive from the methods' general orientation. As research strategies which focus upon specific research questions, both Yin, and Miles and Huberman approach data analysis deductively, focusing on propositions developed at the start of the research project. Yin initiates data analysis with a general analytic strategy, preferably one centered around theoretical propositions about the causal relationships in the setting. Similarly, Miles and Huberman strive to develop a "causal network" which organizes the relationships and/or processes discovered at the site. Both of these data analysis processes ultimately strive to develop theory, to relate the findings at the individual site to the respective body of knowledge.

In contrast to these methods, Lincoln and Guba approach data analysis inductively. The focus of the data analysis is not established prior to the start of the research, a principle fundamental to naturalistic inquiry. Instead, the themes or concepts to be developed emerge from the data analytic techniques.

In thinking about a deductive or inductive approach to data analysis, Miles and Huberman (1984) suggest that the strategies reflect only different start-up tactics. They write "The deductive researcher starts with a preliminary causal network, and the inductive research ends up with one. In both cases, however, the initial versions are amended and refined as they are trained on empirical events and characteristics. By the end of data gathering, both species of researchers are about at the same place. Both are substantiating a cause- and effect-map, but the 'conceptualist' has a shaken-down model and the 'constructivist' has a built-up one" (1984, p. 134). Miles and Huberman suggest the use of the deductive, "conceptualist" strategy based on their own research experiences. They find the deductive approach to focus their data set and analysis, though they believe their techniques could be used with an inductive predilection.

In response, Lincoln and Guba suggest that a deductive approach to data analysis is too structured and results in findings which may conform to the boundaries set by preliminary case study questions and hypotheses, rather than the data themselves. They view the structure imposed by a deductive approach as limiting the data, perspectives and relational propositions considered in understanding a site. Thus Lincoln and Guba suggest the focus established at the start of data analysis delimits the capacity to fully understand a case site.

Techniques

Each of the three approaches utilizes some variation of a coding and categorizing procedure to organize the data and arrange them into more manageable sets. Once the data are

organized, each method involves a process of theory building utilizing various procedures to relate the sets of data; be they concepts, processes, relationships. Yin, and Miles and Huberman develop theory or causal networks using the propositional statements made at the start of the research project. They employ various techniques to test or match the sets of data to the propositional statements. In contrast, Lincoln and Guba, delimit theory from the themes and conceptual categories which emerge from the data and the techniques used to classify the data. As Miles and Huberman (1984) inferred above, all three strategies to data analysis appear to arrive at similar ends. Yin, and Miles and Huberman do extend their analysis and theory building to relate the findings to respective bases of knowledge, while Lincoln and Guba do not include this process of generalization in their analytic procedures.

CASE REPORT

Table V presents how each of the three methods suggests writing the case report in terms of style, elements to include, and general advice about writing. Among the three case study methods, only Yin, and Lincoln and Guba address in detail the presentation of the research conclusions in a final case report. Miles and Huberman offer isolated bits of advice as to what to include and what not to include in a case report.

With respect to the format and structure of a case report, Yin, and Lincoln and Guba's ideas are comparable, though the two ideas reflect their differing research orientations; i.e. Yin

includes use of the case study questions as an outline for the paper. The elements to be included in the report also reflect their different approaches to research. Lincoln and Guba incorporate a more extensive thick description of the case and a more detailed discussion of the data collection and analytic procedures, than Yin does, reflecting their naturalistic inquiry principles and their emphasis on the emergence of their findings. Both approaches leave the actual data base and chain of evidence/audit trail to an appendix.

The suggestions which Yin, and Lincoln and Guba provide about writing the report are similar with only one noticeable conflict. Both recommend inclusion of supportive and challenging data, as well as informant and site review of the draft. Yet the two methods diverge with respect to identification of the site studied; Yin strongly advises disclosure, while Lincoln and Guba insist on anonymity. Yin (1984) believes disclosure assists the reader's understanding and interpretation of the report in that he/she is able to recall previous information known about the case. Furthermore he suggests disclosure permits easier review of the report and any questions or criticism which may be raised. In contrast, Lincoln and Guba (1985) stress their sensitivity to the types of information which participants provide and a concern for the embarrassment or difficulty which disclosure could afford them.

SUMMARY

To this point the intent of this paper has been to provide simple, graphic summaries of each of the three case study methods as convenient references, as well as to highlight the commonalities and differences among the approaches. It has NOT been the intent of this section to evaluate the methods, due to the fact that the "best" method seems to be relative to the researcher's theoretical orientation and the specific research questions. Admittedly, far more differences were anticipated among these approaches, than this study has illustrated.

The case study represents a unique research method to study social questions contextually in a situation in which the researcher has little control and thereby provides a different, and some would say, improved way to understand social, organizational questions. The value of a case study lies in its use of multiple sources of data and varied data collection and analytic techniques to understand the issues in their real-life context. The principal difference among the three methods outlined above seems to center around their orientation; whether the case study is viewed as a research strategy or as the product of a form of inquiry. In general terms, the case study as a research strategy is more focused, more directed toward specific research questions and subsequently may be perceived as more deductive. Contrastingly, the case study as a product of naturalistic inquiry may be portrayed as inductive, focusing on themes which emerge during the data collection process. As Miles and Huberman (1984) write "the two strategies (deductive and inductive) imply

different start-up tactics" NOT "mutually exclusive research procedures" (p. 134). So too with the three case study methods discussed; they represent different orientations, different ways to initiate and proceed through a case study but not distinctive, exclusive case study methods. The differing orientation of each method to case studies directs the subsequent steps to conducting the study, but not necessarily the procedures or techniques used. The overarching orientation dictates whether the research begins with more front-end, pre-conceived thoughts and conceptualizations or a looser structure with openness to emerging themes. In turn, the differences among the three methods lie in more directed, structured data collection and analysis versus the development of such rigor during the research process. Finally, the disparate orientation to case studies influences the structure and focus of the case report as an assessment of the findings relative to the originating research questions and propositions, or as a discussion of discovered themes and working hypotheses.

In spite of these overarching differences associated with the orientation to case studies, the three approaches utilize similar techniques and procedures for conducting research, which represent the substance of case study methodology and its special value in approaching social research issues. All three methods also incorporate effective support for the validity and reliability of the research, though the objective of these efforts differs with the orientation.

Each of the case study methods has its own emphasis. Yin's emphasis is "structure", centered around the research questions established at the start of the study. Lincoln and Guba stress the principles of naturalistic inquiry which are the foundation of their case study method. It should be added that Lincoln and Guba also strongly advise the use of a research team, in light of the rigors associated with understanding and reconstructing the complexities of a site. The approach described by Miles and Huberman underscores two points; analysis during data collection and the continuous construction of data displays to synthesize and effectively present findings.

Associated with the emphasis of each case study method is its advantage over the other approaches. The advantage of Yin's method is its "structure", its continuous focus on the research questions at hand addressed from all the perspectives which case study techniques promote. The benefits of the method outlined by Lincoln and Guba relate to the value of the naturalistic inquiry axioms, i.e. understanding constructed realities, the impact of observer/researchers on a setting. The emphases of Miles and Huberman represent the advantage of their approach. Continuous data analysis focuses and speeds up the research process. The use of displays imposes a systematic consideration and presentation of the data and the research results. As the presentation of this project suggests, there are benefits to the use of visual displays.

To conclude, the selection of one case study approach over another is relative to the researcher's orientation, the research question, and the researcher's own skills and style as they fit

the emphasis and particular advantages of one method over another. To select a case study method consideration needs also to be given to the audience/recipients of the study and the time available for completion.

TABLE I
CASE STUDY ORIENTATION AND DESIGN

	Yin	Lincoln & Guba	Miles & Huberman
DEFINITION/ ORIENTATION	1. case study is a research strategy driven by specific research questions posed, investigator control over actual behavioral events & a focus on contemporary phenomena 2. primarily, the focus is on how & why questions in a real-life context in which multiple sources of data are used 3. a case study is NOT synonymous with qualitative research	1. case study is a report/end product of naturalistic inquiry; "...an interpretative instrument for an idiographic construal of what was found" (p. 189)	1. case study is a research strategy driven by a specific conceptual framework & research questions
DESIGN			design is a means of bounding & focusing data collection; strict vs loose design is dependent on time available, how much is already known & the type of analysis to be made
Definition	design is a logical sequence connecting data, research questions, & conclusions; an action plan	design is a plan for certain broad contingencies without exact stipulations	
Openness to Change	design should be altered under stringent circumstances; not to change theoretical concerns or objectives	design cannot be given in advance; it must emerge, develop, unfold	
Design Elements	- research questions - propositions - unit of analysis, bounding definitions - logic linking data to propositions - criteria for interpretation	- focus - fit to naturalistic paradigm - fit between naturalistic paradigm & substantive theory - data sources - successive phases(time line) - instrumentation - plan for data collection - plan for data analysis - logistics - plan for trustworthiness	- conceptual framework - research questions - sampling; sources of data - instrumentation; level of specificity to first three elements

TABLE II
SUPPORT OF VALIDITY & RELIABILITY

Yin	Lincoln & Guba	Miles & Huberman
1. construct validity - multiple sources - triangulation - chain of evidence - key informants review draft - consider rival propositions	1. confirmability - audit trail - reflexive journal	1. validity - colleague critiques - decisions rules re: display development & analytic concepts - evidential chain - informant feedback - triangulation - check of outliers, rival explanations - seek negative evidence
2. internal validity - analytic techniques - pattern matching - explanation building - time series analysis	2. credibility - participant review - prolonged engagement - persistent observation - triangulation - peer debriefing - negative case analysis - member checks	2. tactics for generating meaning - counting - note patterns - clustering - factoring - conceptual/theoretical coherence - prediction
3. external validity - analytic generalization to broader theory	3. transferability - thick description	3. (no specific reference)
4. reliability - case study protocol - case study data base - chain of evidence	4. dependability - inquiry audit (part of audit trail) - reflexive journal	4. documentation - procedural log - log of reflections, code development

TABLE III
DATA COLLECTION PROCESS

	Yin	Lincoln & Guba	Miles & Huberman
EMPHASES	- multiple sources of evidence - develop case study data base - maintain chain of evidence	- multiple sources of evidence - build up trustworthiness - field journals - on-site team interactions - triangulation - referential adequacy - materials - peer debriefing - audit trail - data collection & review directs further collection	- data is organized & analyzed continuously throughout collection - displays are positive data organizers - logs are maintained re: procedures, decision rules for display data entry, & conclusions drawn for documentation & auditing
PHASES	- develop case study protocol; includes - overview - field procedures - case study questions, information to be collected & probable sources - outline case study report - collect data, seek converging evidence - closure once all information collected as identified in protocol & case study questions	- gain entre, negotiate consent, develop trust, identify informants - establish overview through prolonged engagement & open-ended approaches; design unfolds - collect indepth information, purposive sampling - establish local verification - closure when redundancy of new information achieved	- maintain on-going data analysis through collection; utilize write-ups, contact & document summaries - organize data during collection; data coding - continue process of progressive analysis - develop propositions - interim summaries - data accounting sheet - closure when data accounting sheet complete
SOURCES	- documentation - archival records - interviews - direct observation - participant observation - physical artifacts	- interviews - observations - nonverbal cues - documents & records - unobstrusive information, i.e. archival records, physical traces	- interviews - observations - documents
TECHNIQUES	- open & focused interviews - document analysis - participant observation - triangulation - use of informants, i.e. member checks - narratives which connect evidence to issues, i.e. open-ended answers to case study protocol questions	- open & focused interviews - document analysis - persistent observation/ prolonged engagement - triangulation - member checking - activity log - methodological log	- interviews - contact summaries - document summaries - data coding; descriptive, interpretive, explanatory - member checks - memoing - reflective remarks, conceptual ideas

TABLE IV
DATA ANALYSIS

	Yin	Lincoln & Guba	Miles & Huberman
STRATEGIES	1. start with a general analytic strategy - preferable to follow theoretical propositions re: causal relations - alternative to develop case description 2. assumes a deductive approach	1. process of analytic induction &/or constant comparison	1. process of developing a causal network; "an abstracted, inferential picture organizing field study data in a coherent way" (p. 132) 2. assumes an incremental, deductive process
TECHNIQUES/ PROCESS	1. use techniques like Miles & Huberman to organize data before analysis 2. pattern-matching 3. explanation building 4. time series lesser techniques 5. analyze embedded units 6. repeated observations 7. case survey	1. unitize data 2. develop categories using constant comparison method 3. delimit theory	1. process of condensing & sorting data progresses through - conceptual framework - research questions & initial data codes - reflective remarks - variables from field NOTE: much of process completed during data collection 2. tactics for generating meaning - counting - note patterns - see plausibility - clustering - metaphors - subsume particulars into general classes - factoring - note relations between variables - build logical chain of evidence - make conceptual/theoretical coherence 3. develop displays formatted relative to research questions &/or elements of causal network

TABLE V

CASE STUDY REPORT GUIDELINES

	Yin	Lincoln & Guba	Miles & Huberman
STYLE	1. format - case description OR - responses to questions in case study data base 2. structure/means of presentation - linear-analytic - comparative - chronological - theory building - suspense - unsequenced	1. use case study format 2. distinguish between descriptive & interpretive sections	n/a
ELEMENTS	1. case description 2. overview of methodology 3. findings 4. extensive use of footnotes 5. data base as an appendix	1. problem explication 2. context (thick) description 3. transactions, processes description 4. discussion of salience 5. outcomes, working hypotheses 6. methodological appendix	1. include displays 2. supportive basic data
SUGGESTIONS	1. present case neutrally with supporting & challenging data 2. write to the audience 3. disclose case site 4. draft sections early, i.e. methodology, case description, bibliography 5. informants review draft	1. informal writing 2. maintain audit trail through discussion 3. honor confidentiality & anonymity of participants & site 4. peer review for accuracy 5. member check draft	1. write to the audience, incorporate displays to increase understanding 2. avoid long narratives, too long & unstructured

CHANGES IN POLICIES/PROCEDURES OF PATIENT CARE
SINCE 1985

Janice R. Sandiford, Ph.D.
Associate Professor
Health Occupations Education
College of Education
Florida International University
Miami, FL 33181
Telephone (305) 940-5820

Lorene Farris, Ed.D
Professor
School of Nursing
Florida International University
Miami, FL 33181
Telephone (305) 940-5915

CHANGES IN POLICIES/PROCEDURES OF PATIENT CARE SINCE 1985

Janice R. Sandiford

Lorene Farris

Abstract: The purpose of this study was to determine changes in policies and procedures relative to patient care since 1985 in an attempt to identify how local health care agencies are dealing with the problem of the Acquired Immuno Deficiency Syndrome (AIDS) individual. Questionnaires were mailed to either the director of Nursing or the Director of Education of 75 local health care facilities. Information relative to current changes in policies and procedures is necessary to reduce the potential liability of health occupations students being misinformed or from contracting the disease because they were not properly instructed. The findings indicate that changes in policy and procedures have occurred, changes in attitudes of health care workers are evident and students in health occupations programs are not adequately informed relative to recommended guidelines prior to being assigned to clinical agencies.

¹Janice R. Sandiford, Ph.D., is Associate Professor of Health Occupations Educations College of Education at Florida International University.

²Lorene Farris, Ed.D. is a Professor in the School of Nursing at Florida International University.

Introduction

Professional literature is filled with information related to Acquired Immuno Deficiency Syndrome (AIDS). Recent journals have included articles on the need for policies in the workplace (Morris, 1987), revisions in preparation of the health care providers, (Hodges & Poteet, 1987), the challenges for health care providers (American Nurses Association, 1987; Bennett, 1987), and attitudes and ethics of health care workers caring for AIDS individuals (Hodges & Poteet, 1987; Steele, 1986). Publications such as the Surgeon General's Report on Acquired Immune Deficiency Syndrome, (U.S. Department of Health and Human Service) and the Recommendations for Prevention of HIV Transmission in Health Care Settings Morbidity and Mortality Weekly Report Supplement, August 21, 1987 Vol. 36 No. 2S (U.S. Department of Health and Human Service, Centers for Disease Control, Atlanta, GA 30333) provide health care agencies and their employees with facts relative to the incidence of the disease, its treatment, and the need for protection. Despite this information, "many health care providers still harbor fears and misunderstandings about AIDS that negatively affect the delivery of patient care." (Schietinger, Fitzhugh, McCarthy, and Morrison 1987, p. 155). It is apparent that AIDS is a concern of the general public as well as the professional health care provider.

As educators of health care providers, the authors began to ask questions relative to policies in local health care agencies related to the care of AIDS individuals in the community, particularly in those agencies used to prepare students for the health care profession.

Interest in this subject was further enhanced by a concern that the program curricula should be reviewed for possible revision to keep it current with events but also to reduce the potential liability of students being misinformed or from contracting the disease because they were not properly instructed.

The following questions were formulated:

1. Have local health care agencies changed policies relative to the care of HIV and AIDS individuals?
2. What are those changes, particularly those necessary to deliver basic nursing care?
3. Have agencies experienced employee resignations due to the employee's fear of contacting this disease?
4. Has there been a change in attitudes of employees caring for individuals with this disease?
5. Has it been necessary to implement policies relative to termination of employment for employees refusing to give care to individuals with this disease?
6. Are students in health care programs being properly prepared for their role in caring for individuals who may have this disease?
7. Do health care agencies believe it is their responsibility to orient student groups to their policies relative to this disease or is it the responsibility of the school?

Methodology

Survey methodology was selected for this study. A short questionnaire was developed, reviewed by a panel of peers and revised. The

questionnaire consisted of items which would address the questions of changes in policy and procedures in health care delivery, attitudes of health care workers relative to caring for individuals with this disease and preparation of students, as well as demographic information.

The population of the study included 75 local health care agencies across three counties in one university service area. The questionnaire was sent at random to either the Director of Education or the Director of Nursing, as these individuals were considered to be the most knowledgeable about policies. These individuals were selected from the mailing list provided by the Area Hospital Association. A postage paid return mailer was included to assist in obtaining a larger number of returns. Attempts were made to keep material anonymous and confidential, given the sensitive nature of the subject. At the end of one month, a follow-up phone call was made in an attempt to elicit more returns.

Survey of the Literature

Recent professional literature has been attending to the problems of caring for individuals diagnosed with AIDS or carrying the virus. It was not possible to include all of the references available in the professional and general literature as the number is becoming unmanageable. For the purpose of this study the researchers chose to limit the search of the literature to those references which dealt with the scope of the problem, workers knowledge of the disease and attitudes.

The Scope of the Problem

"Since its initial recognition in 1981, the Acquired Immuno-deficiency Syndrome (AIDS) has become a global pandemic." (Quinn, 1987 p. 7).

Looking closer to home, AIDS has struck more than 20,000 people in the United States in 1987 which increases the number of cases past 50,000 ("20,000 New", 1988). Quinn (1987) estimates by 1991, over 270,000 cases of AIDS will have developed in the United States from the present pool of 1-2 million HIV infected individuals. Florida has reported 826 new cases from January to mid-August 1987 with a mortality rate approaching 64%. (Morris, 1987). From this frightening number emerges a responsibility for health care providers who will need to respond to this increased demand on care loads. AIDS poses many serious challenges for the nation: legal, ethical and practical, but even greater challenges for health care professionals who need to be concerned with protecting the individual with the disease, protecting other sick and injured individuals from innocently contracting the disease and protecting themselves from contracting the disease. Health care professionals are afraid, and they are voicing their concern by their actions and expression of their attitudes. Recently, NursingLife (1986) asked readers to respond to a situation related to resuscitating a patient with AIDS. The responses indicate this is a highly charged issue and many nurses do not want to jeopardize their health. The poll found 60% of the nurses would not resuscitate this patient and 16% have refused to care for AIDS patients. Abrams (1986), an ethicist stated it was unreasonable to expect anyone, including health care workers to administer mouth-to-mouth resuscitation to a patient with AIDS. This attitude could result in major legal battles, neglect of patients, unfilled vacancies, and flight from the profession.

Health care workers are at risk. In May, 1987, The Centers for Disease Control (CDC) reported a total of nine health care workers had

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been infected with human immunodeficiency virus (HIV) after having either directly cared for AIDS patients, had needle stick exposure or exposure to blood without a needle stick. Although aware of these statistics, at the June, 1987 meeting of the American Nurses Association House of Delegates, a vote to urge all health care workers to become familiar with CDC guidelines and reaffirm commitment to provide care to all people in need of services regardless of illness passed (American Nurses Association, 1987).

One change surrounding the provision of care to the AIDS client is reflected in the change in policy and procedures. The Centers for Disease Control provides weekly updates through the Morbidity and Mortality Weekly Report (U.S. Department of health and Human Services, Public Health Service Centers for Disease Control, Atlanta, GA 30333) on prevention of HIV transmission in health care settings. Implementation of universal blood and body fluid precautions for all patients has eliminated the need for use of the isolation category of blood and body fluid precautions previously recommended.

Education About the Disease

Quinn (1987) states that "until we find a vaccine or cure, the only way to stop the spread of AIDS is through education" (p. 10) Morris (1987) recommends "the cornerstone of any aids policy must be education of management and employees on what the disease is and what it is not." (p. 15). Even among health care providers, the need for education has been addressed in the literature through weekly updates to health care agencies (Centers for Disease Control, 1987). Flaskerud's (1987) study identified 75% of respondents indicating a need for information in 56% of the listed

categories asked about. Eighty percent indicated the need for information in the area of AIDS symptom assessment, transmission in the workplace, precautions for health care workers, psychosocial care, and legal and ethical issues. Similar surveys of other health care personnel reveal this same desire for education about the disease. A survey of pharmacy, medical and nursing students (Bartnof, 1987) identified that health care provider students may be thrust into clinical interactions with at-risk patients prior to receiving education on the disease. Following a 13 hour experimental course, students indicated an increase in knowledge of AIDS-HIV coupled with a decrease in phobias.

Attitudes

Knowledge and attitudes are closely related when dealing with this disease. Gerbert, Badner and McGuere (1987) surveyed dental health professionals to determine attitudes, knowledge and behavior regarding AIDS patients. Findings indicated attitudes toward AIDS affect screening and infection control procedures used by dental health professionals. It was recommended that attitudes, rather than knowledge, should be targeted in education programs. Professionals who have dealt with their attitudes feel less at risk and consequently provide better care to their patients (clients). In another study, (physicians) from three large cities were surveyed (St. Lawrence, Kelly, Hood, Smith and Cook, 1987) relative to their attitudes in caring for AIDS/HIV patients show that health care providers may share some of the same prejudices as the general community. These health care providers were likely to believe that AIDS/HIV patients deserved their illness and were less deserving of sympathy than leukemia patients. The researchers recommended the need to develop better

psychological/education programs for health care providers especially in areas where AIDS prevalence will soon increase.

In NursingLife's poll (1986) of reader's attitudes, most respondents (81% of 450 nurses) would not refuse to care for AIDS patients, however, only 40% indicated they would resuscitate a 34 year old patient with AIDS. This number willing to resuscitate was increased (61%) if they waited until they had a protective airway.

Steele (1986) addresses attitudes in suggesting that we work to clarify values in health care workers in an effort to make change. "As providers get more and more evidence about AIDS, and as we sort out our thoughts, we may start to behave differently." (p. 248).

There is no question that this disease has put the medical profession at risk with questions about its transmission and its impact on the attitudes of personnel. Policies have been recommended by the Centers for Disease Control and they have been implemented in health care agencies, but still there is concern and questions. This is one disease that we will be learning about for some time.

Findings

Of the 75 agencies contacted, 29 (39%) responded to the questionnaire. Even though this response was low, those responding represent the variety of health care agencies in the community. Data represent responses from agencies having 42 to 699 beds with an average size of 230 beds. There were more respondents from agencies over 200 beds than those under 200 beds. Personnel employed by these agencies range in number from 25 to 2400 with the majority of agencies employing over 500 persons. Eighteen of the respondents indicated their job responsibility

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was infection control. In some instances, these people may hold dual responsibilities in education and or administration. The majority of agencies, 86% in the community care for AIDS individuals. Only three answered no, and one answered not yet.

Changes in Policies and Procedures

Wearing loves, as recommended by the Centers for Disease Control (CDC), was one area given attention in the establishment and revision of policies and procedures relative to caring for all hospitalized individuals. The procedure which appeared to be the most affected by policy change was suctioning of individuals with 76% of the respondents indicating they have implemented a policy to wear gloves during suctioning. Following closely in policy change were those policies relative to starting and discontinuing IV's, collecting specimens, and emptying urinary drainage bags in which 72% of respondents indicated changes. The procedure least affected by policy change was instructing clients with only two respondents indicating a change in policy. These changes are presented in Table 1.

Table 1

Changes in Wearing Gloves for Patient Care since 1985

N = 29

Policy/Procedure	Yes	No	No Response
Suctioning individuals	76%	17%	7%
Starting/discontinuing IV's	72%	17%	10%
Collecting specimens	72%	17%	10%
Emptying urinary drainage bags	72%	17%	10%
Emptying bedpans	66%	24%	10%
Bathing individuals	55%	34%	10%
Making beds/handling linens	52%	34%	14%
Manipulating lines	45%	28%	28%
Giving instructions	7%	66%	28%

Other policies and procedures listed by agencies included; Any contact with body solutions (2), invasive procedures (2), stringent handwashing (2), moist by-products (2), non-intact skin (1), mucous membranes (1), if likely to soil hands (1).

Wearing masks as recommended by CDC was another area given attention in the establishment and revision of policies and procedures. Again suctioning policies made the greatest change as 45% of the respondents indicated their policy has been revised or changed. These responses are presented in Table 2.

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Changes in policies and procedures are also evident in general care items such as the use of aprons or cover gowns (69%) and disposal of needles and sharps (52%). These responses are presented in Table 3.

Table 2

Changes in Wearing Masks for Patient Care Since 1985

N = 29

Policy/Procedure	Yes	No	No Response
Suction individuals	45%	38%	17%
Collect specimens	31%	52%	17%

Other policies and procedures that were listed by agencies included:

Trauma (3), body fluid splash (3), endoscopy (2), Emergency Room (1), and invasive (1).

Table 3

Changes in General Care Since 1985

N = 29

Policy/Procedure	Yes	No	No Response
Use of aprons or cover gowns	69%	19%	14%
Disposal of needles & sharps	52%	38%	10%
Terminal cleaning of rooms	38%	48%	14%
Placement of manual resuscitation bags and masks at bedside	31%	55%	14%

Other policies and procedures that were listed by agencies included: no cleaning of walls or curtains unless obviously soiled (1), precautions on room cleaning (1), pocket mask for CPR (1), revised blood spill cleanup (1), protective eye wear (1) and needles not to be capped or broken, dispense in impervious container (1).

Attitudes of Health Care Workers

The second area of concern of this study dealt with attitudes of health care workers. Fifty-nine percent of the respondents indicated that staff members have mentioned they fear contracting AIDS. Responses were indicative of great concern as comments added include "too numerous to count," "all 360 of them," and "voice it daily." In addition, the respondents indicated that, in total, approximately 115 employees had considered leaving or left the profession because of their fear.

Twenty-eight percent of the respondents indicated they had employees refuse to give care to individuals diagnosed as having AIDS. This problem has been dealt with in a variety of ways, with the two most frequently mentioned ways as education and counseling. Respondents did indicate termination was used in three instances. Only two respondents indicated that they had to implement a policy of termination for employees refusing to care for patients with AIDS.

Preparation of Students

The third area of concern of this study was related to the preparation of students for their role in caring for AIDS individuals. Nineteen of the respondents indicted that they served as clinical training sites for students from local schools. Of this number, 68% indicated students were NOT adequately informed relative to CDC guidelines prior to coming to

their health care facility. In addition, 58% felt students did not have valid information relative to HIV and AIDS prior to the clinical experience. Sixty-eight percent of the respondents orient students relative to the agency HIV and AIDS policy. Comments from respondents indicate that instructors do not always ask for orientation by the staff of the facility.

Discussion

Data collected from the respondents indicate that policies relative to the care of patients in health care agencies have changed somewhat since 1985. A few respondents reported that policies have been in place for more than 2 years, but most indicated they have changed or are revising their policies. It was clear that all respondents use the Centers for Disease Control (CDC) guidelines in the establishment and implementation of policies and procedures. The date reported here reflect practices and are as accurate as possible, taking into account different types of health care agencies. They are useful primarily for discerning trends, rather than actual counts and are analyzed with this in mind.

From the data collected by the researchers, trends were similar to those noted in the literature reviewed. Health care agencies in the community are experiencing the admission of AIDS diagnosed individuals to their agencies and as a result have become more aware of the need to change or revise policies, not only to protect these individuals but to protect all patients in their care as well as employees. In particular, policies relative to handling body secretions and fluids such as suctioning, collecting specimens, emptying bedpans and starting IV's are affected. Recommendations for employees to wear gloves when caring for

all patient during these procedures and others provides a barrier from contact with the virus. Students in health occupations programs will visible see the use of these practices and will themselves be encouraged to follow suit. Questions however need to be asked to determine if we are over reacting when policies to wear gloves during the giving of instructions are being considered. At what point do we sacrifice a life because we take time to put on gloves before giving care? Do these policies cause hospitalized individuals to feel that workers are afraid to touch them, to hold their hand, without the barrier of plastic or latex gloves.

With many policies being changed since 1985, educators should evaluate curriculum materials and their teaching of technique relative to the handling of body fluids and collecting of specimens. Keeping current with the guidelines from CDC relative to new information is a major problem but essential for teachers. Of those policies listed in "other", the most significant to educators must be a policy which suggests that needles are not to be recapped or broken but placed in specially marked containers. This would clearly indicate a need for re-training and breaking of established habits as well as the introduction of new techniques to students beginning instruction on giving injections.

The data collected in this study show clearly that attitudes of health care workers are changing. Fear of contracting AIDS continues to be foremost in the minds of caregivers, despite education about its transmission. Health care workers are being more cautious in the following of policies and procedures while some are even going to extremes. Where refusal to care for patients would have meant immediate

termination a few years ago, the agencies in the community are employing education and counseling prior to termination. Those who believe themselves to be in high risk areas, respiratory care or maintenance, are those most frequently mentioned as needing reinforcement to reduce fears.

The education of individuals relative to attitudes has always been included in the curriculum of health care workers. It is even more important to insure that students learn to project positive attitudes in caring for individuals with AIDS and HIV. The fear among workers is real and difficult to overcome. These fears and attitudes will be seen in the form of voluntary resignations, job changes, and career decision changes. Joan Jacob, nurse specialist, stated "the need to look out for caregivers" (Bennett, 1987 p. 1151) and suggests the need to exchange strategies that work and fail in coping with fears. Although fear may be manifested in declining enrollment to programs and increasing shortages of health care personnel, education is one answer to reduce fear and consequent attrition.

Finally, it is clear the educators are perceived as ineffective in educating their students relative to the CDC guidelines and in providing students with valid information relative to HIV and AIDS. It is critical that educators obtain copies of the CDC guidelines and include this information in their lesson plans. They should make it clear that proper application of infection control will provide students with protection against all infections. Effective education is more than learning about the disease, its causes and prevention but must include policies and procedures, attitudes, and legal and ethical aspects such as negligence or dereliction of duty. Educators should feel comfortable about asking

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health care facility personnel, especially infection control personnel, to assist them in orienting students to the facility.

Conclusion

The results of the study were correlated with the questions formulated in the introduction. Local health care agencies have changed policies and procedures relative to the care of individuals in an effort to protect patients and caregivers from contracting the disease. Agencies are following the suggestions of the CDC and many have gone beyond the recommendations. Local agencies are using gloves and masks during the administration of care to all individuals as well as those infected. Particular precautions are taken when there is a likelihood that there will be contact with blood or other body fluids.

Local agencies are experiencing resignations of health care personnel who admit they fear contracting AIDS. Although this may not have reached epidemic proportions yet, it must be considered a potential problem.

Health care workers' attitudes in the community have changed. Even though refusal to provide care might mean loss of jobs, they are refusing. Agencies are dealing with this problem using education as a dismissal. Policies to deal with this dilemma are being considered.

Health Occupations students are not properly prepared for their role in caring for individuals who may have this disease prior to the clinical experience. Curriculum revision based on CDC guidelines for infection control is needed. All health care agencies need to orient students as well as employees to the agencies' HIV and AIDS policies.

Recommendations

Although this survey included only local health care agencies, it

would be beneficial to replicate the study to include a larger area with more agencies participating.

The increased incidence of the AIDS disease would suggest more health care facilities will be involved in providing care; therefore all health care institutions should be encouraged to prepare policies and procedures for AIDS clients. They will need to review them and update them as often as necessary.

All nursing and allied health schools must make curricular decisions about proper education and protection of students in the clinical care of AIDS patients.

Attitudes as well as knowledge should be targeted in education programs designed to improve AIDS information and lessen fears in caring for the HIV/AIDS client.

There is a need to include faculty development and student education in an effort to facilitate acceptance of AIDS as a manageable disease.

The decrease in student enrollments and exit from the profession should be addressed as a serious problem which may be related to this disease.

The legal ramifications of rights of workers, or students, to refuse to care for certain individuals should be addressed, including the rights of faculty to choose not to assign students to care for AIDS individuals. The discussion should include the liability of the student, the teacher, the health care agency and the educational institution should the student contract AIDS.

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LEADERSHIP OPINION MEASURES OF STUDENT OFFICERS
IN HEALTH OCCUPATIONS STUDENTS OF AMERICA

Norma J. Walters, R.N., Ph.D.
Associate Professor & Coordinator
Health Occupations Education
235 George C. Wallace Building
Auburn University, Alabama 36849
Work (205) 826-5320
Home (205) 887-8059

James Noel Wilmoth, Ph.D.
Professor, Research Consultant, & Statistician
255 George C. Wallace Building
Auburn University, Alabama 36849
Work (205) 826-5320
Home (205) 821-1731

LEADERSHIP OPINION MEASURES OF STUDENT OFFICERS IN
HEALTH OCCUPATIONS STUDENTS OF AMERICA

Norma J. Walters¹

James N. Wilmoth

Abstract: Purposes of this study were (a) to determine specific patterns of leadership attributes for officers at various levels of leadership and in various positions of service in Health Occupations Students of America, (b) to describe relationships between their leadership attributes and selected demographic characterizations, (c) to adapt Fleishman's Leadership Opinion Questionnaire for use with students in health occupations at the high school level, and (d) to summarize student performance on the adapted Leadership Opinion Questionnaire with sample norms. Factor Analysis, sequential multivariate analyses of variance techniques, and non-parametric statistical techniques were applied to the raw data. Norms were computed for 115 students in leadership positions from 27 schools in 2 districts of a southern state. Statistical differences at the .05 level were found for groups of student officers serving at local, state, and national levels; and for groups described with joint attributes of sex and grade level.

¹Norma J. Walters, R.N., Ph.D., is Associate Professor and Coordinator of Health Occupations, Auburn University; and James N. Wilmoth, Ph.D., is Professor, Research Consultant, and Statistician, Auburn University.

Background

Leadership has been said to be "the ability and readiness to inspire, direct, and influence the actions of others" (Binkley & Byers, 1982, p.84). The term "Leadership" also may be more loosely used to refer to positions of office in an organization. To be a leader elected to such an office, one necessarily should lead. "To lead" is to guide or show the way. A student officer in Health Occupations Students of America, (HOSA) therefore, is a student leader who potentially influences or provides guidance on the decisions or actions of others. Essential to effective group effort is leadership. However, leadership in student organizations presents itself to coordinators and advisors as an ubiquitous problem. Many officers of student organizations run for office, not because of a desire to serve but because of a need to feel popular, a need to develop credentials for entry into college, or to satisfy psychological demands that may or may not be aligned with their new leadership responsibilities. However, many students provide excellent leadership and take seriously their responsibilities to the organization, to the school, and to other students.

Members in student organizations such as HOSA, which is an integral component of the Health Occupations Curriculum, typically receive leadership training and have the opportunity to progress through the organizational hierarchy from member to chapter officer, state officer and ultimately, for a few students, to national officer. However, Owings and Nelson (1979) reported that research in the area of leadership indicated that leadership skills were not the only factors involved in becoming a youth organization officer. Moreover, no attempts to define leadership attributes of students in leadership

positions in student organizations at the secondary level were found in the literature of leadership.

Purpose of Study

Recognizing the importance of leadership training for student leaders in HOSA, this study was undertaken:

1. To determine specific patterns of leadership attributes for officers at various levels of leadership and in various positions of service in HOSA.
2. To describe relationships between HOSA officer leadership attributes and selected demographic characterizations.
3. To adapt Fleishman's Leadership Opinion Questionnaire for use with students in health occupations at the high school level, and
4. To summarize student performance on the adapted Leadership Opinion Questionnaire with sample norms.

Methodology

Population

The population consisted of 5 districts in a southern state. From the population a sample was drawn that included two districts, 27 schools, and 115 students. The students were all officers in local HOSA chapters. All student leadership positions were represented in the analysis. The leadership positions included: (a) president, (b) vice-president, (c) secretary, (d) treasurer, (e) historian, and (f) other. Leadership position and other demographic data served as the basis for modeling the Leadership Opinion Questionnaire responses and for computing norms characterizing different student leadership positions.

Instrumentation

The instruments utilized to collect the information from the HOSA chapter officers included: (a) An adaption of Fleishman's (1969) Leadership Opinion Questionnaire (LOQ), and (b) a demographic questionnaire. Fleishman's LOQ (40 item instrument) was adapted to a 50 item questionnaire by: (a) making word changes to the 40 items which would communicate better with the age group, (b) adding 10 items related to leadership, and (c) standardizing response options across the 50 items. Fleishman (1962) claimed the original version to be a valid instrument used for analyzing leadership style on two leadership scales: structure and consideration. Both scales are relevant to managerial effectiveness. For Fleishman's original version of the LOQ, test-retest, and split-half (odd-even), reliability estimates for the standardizing sample of firstline supervisors and Air Force NCO's ranged from .70 to .89 for the Consideration Scale and from .67 to .88 for the Structure Scale.

Structure was defined by Fleishman (1969) as the extent to which individuals design and define their roles and the roles of those around them. Structure primarily measures goal attainment for organizational purposes. Consideration was defined as the ability to maintain mutual trust, respect, warmth, and introspect into the feelings of subordinates. An individual with a high consideration scale score was presumed able to establish communication and rapport with subordinates; whereas, an individual with a low score was believed to function as an impersonal manager within group settings. De Julio, Larson, Dever, and Paulman (1981) suggested use of " . . . the LOQ . . . where feedback concerning personal attitudes toward leadership may be of particular benefit to persons entering into occupations requiring managerial and leadership role functions" (p. 208).

Control Variables

Level of office. Level of office was the first variable entered into the PROC GLM analysis by SAS. It classified, in a way, the level of experience of each respondent with respect to the scope of office held: (a) local, (b) state, (c) national, (d) local and state, and (e) local, state, and national. There were no student officers who had held a state office and not a local office, thus level of office had 4 effective levels.

Leadership position. Leadership position (already described) served as a control variable for describing differences in observed variation for the multivariate analyses and for developing norms for the LOQ factors.

Grade level. Grade Level included grades 9, 10, 11, 12. Grade Level was the variable of choice for studying relationships between maturity and variation in scores on the consideration and structure factors of the LOQ.

Sex. Sex was the arbitrary name assigned to the gender variable. Sex was included under the assumption that gender differences could exist particularly in interaction with the maturity variable.

District. Under random selection criteria in a large state having variable resources for health occupations education and differential interests in promoting health occupations education as curricular options, geographic differences in leadership attributes could exist. Thus, a control variable designating geographic location was included.

School within district. All schools within the two districts were invited to participate. There are distinctions within the districts such as urban-rural and size of school. School within district was included to accommodate such differences.

Two-way interactions. There was no clear-cut theory to guide development of the statistical models beyond inclusion of main effects described above. However, the possibility existed for two-way and higher order interactions to be related to LOQ factor scores. Because of the size of the data set, it was deemed feasible to include two-way, but not higher order, interactions. Not every possible two-way interaction was included, but only those that survived preliminary analyses suggesting absence of statistical problems and presence of some contribution to variation accounted for.

Statistical Methodology

Factor analysis (Rummel, 1970) was performed on the adjusted LOQ of 50 items to define its factor structure. The computerized statistical package of choice for this was SAS. The initial principal components matrix was varimax rotated then was Procrustes rotated. Best theoretical results were with the varimax rotated solution.

Factor scores were computed within a DATA Step of SAS based on only the items that loaded principally on the respective factors in a manner that was parallel with Fleishman's reliabilities for the original LOQ. Inter-item consistency reliabilities were computed for the factors based on the same loaded items using the REPEATED option of PROC GLM. Each reliability was adjusted for anchor points; that is, adjusted for statistical differences in means of all items composing the factor for which the reliability was calculated.

Sequential multivariate analyses of variance techniques were applied to the 2 factor scores derived from varimax rotation of student responses to the adapted questionnaire. Norms were computed for 115 students in leadership positions from 27 schools in 2 districts. Normative data were broken down by

student groups representing significant differences in factor centroids determined from the sequential multivariate analysis: for different levels of office, for different leadership positions, for different grade levels, for sex, and for the 2 districts. Norms for joint classifications on sex and grade level were also calculated but are not reported.

All normative computations were based on sub-programs in SPSSX. FREQUENCIES defined the cumulative probability distributions. CONDESCRIPTIVE computed means, standard deviations, and other distribution properties. The K-S sub-command of NPAR TESTS generated the goodness-of-fit tests.

Results and Discussion

Validity and Reliability for the Present Sample

The number of factors determined for the adapted LOQ matched the number reported by Fleishman. Table 1 presents the precise loadings. The varimax rotated solution generally satisfied criteria of simple structure--just 3 items (numbers 6, 14, and 17) loaded ambiguously on both factors. These items were assigned to factors according to Fleishman's classification of them: Items 6 and 14 to Factor 1, the structure factor, and item 17 to Factor 2, the consideration factor. Item 21 loaded highest on consideration but was assigned by Fleishman to structure. The 10 items (41 through 50) added to Fleishman's LOQ loaded as structure items although item 48 seemed to be more properly a consideration item. The adapted LOQ factor structure seems to be meaningful, and consistent with Fleishman's original instrument applied to adults, for characterizing leadership attributes of student leaders in HOSA chapters. Reliabilities of adapted LOQ Factor Scores for the 50 item instrument for this sample of student officers were .58 for the Consideration Factor and .61

Table 1

Loadings on the Varimax Rotated Factor Pattern Matrix for
Student Officer Responses to the Supplemented 50 Item LOQ

Item Factor			Item Factor			Item Factor			Item Factor		
#	F		#	F		#	F		#	F	
		1 2			1 2			1 2			1 2
		(s) (c)			(s) (c)			(s) (c)			(s) (c)
1 s	59	71*	14 s	68*	67	27 s	50	73*	40 s	79*	53
2 c	65	68*	15 c	64	70*	28 c	45	71*	41 s	68*	64
3 s	65	67*	16 s	57	71*	29 c	40	79*	42 s	79*	56
4 s	64	67*	17 c	66	67*	30 s	41	79*	43 s	81*	49
5 c	61	71*	18 s	63	70*	31 s	79*	51	44 s	83*	46
6 s	66*	66	19 c	71*	62	32 c	74*	57	45 s	83*	47
7 c	62	68*	20 s	59	70*	33 c	81*	49	46 s	81*	49
8 c	73*	62	21 s	51	66*	34 c	78*	56	47 s	78*	51
9 s	63	68*	22 s	42	72*	35 s	75*	56	48 c	79*	53
10 c	60	72*	23 c	45	77*	36 c	75*	62	49 s	82*	49
11 c	64	68*	24 c	46	74*	37 s	75*	58	50 s	84*	46
12 c	58	71*	25 s	42	80*	38 c	73*	58			
13 c	67*	65	26 s	47	72*	39 s	80*	50			

Notes:

F represents Fleishman's assignment of the item either to the c, consideration, factor or to the s, structure, factor. Items 41 thru 50 were added by the authors to supplement the LOQ. Each loaded in the factor analysis as a structure item, but the content of item 48 suggests it to be more conformable to Fleishman's consideration items.

(s) and (c) as column headings indicate current SAS designation of the items from the Proc Factor procedure of SAS.

Items 6, 14, 17 loaded on both factors but are asterisked as structure or consideration items according to Fleishman's designation.

Item 21 was not asterisked by SAS. Item 21 was not loaded in conformance with Fleishman's designation. The asterisk indicates the obviously larger loading on the consideration factor.

for the Structure Factor. These are somewhat lower than reported by Fleishman for the standardizing sample of adults with the original instrument.

Multivariate Analysis of Variance

Four sources produced sequential multivariate significance at the .10 level for consideration and structure centroids computed for the adapted LOQ. In first position, Wilk's lambda for level of office was significant at the .05 level, in fifth position district was significant at the .10 level, and in twelfth position grade level nested within sex (an interaction of grade level with sex) was significant at the .05 level. Results of the complete sequential multivariate analysis of variance is presented in Table 2.

Means and standard deviations for factor scores broken down by relevant student demographic characteristics are presented in Table 3. For level of office, students differed on structure scores at the .01 level, and on consideration scores at the .10 level. The student officer who had held local, state, and national offices scored about 3 standard deviations higher on both scales than did the typical student holding only local offices or holding both local and state offices. For district as a source, student officers differed on both consideration ($p < .10$) and structure ($p < .05$) scores. Students from District A were higher than District B on both scales. For grade level within sex as a source of variance, student officers differed within sex as follows: As males entered higher grades, scores on structure decreased, then increased; while for females, structure scores decreased consistently. Consideration scores for males increased with grade level, but for females, decreased with grade level. Although differences in the main effect of grade level were not significant, it could be noted that for males and females taken together the

Table 2

Sequential Multivariate Analysis of Variance of LOQ Factors on
Demographic Variables for High School Student Officers of HOSA

Source	Multivariate				Univariate					
	Wilk's	Num	Den	F	Structure			Consideration		
	Lambda	df	df		df	SS	F	df	SS	F
1. Level of Office	0.77	4	76	2.6**	2	763.16	5.6***	2	448.27	3.0*
2. Ldrshp Positn	0.77	10	76	1.0	5	615.15	1.8	5	312.39	0.8
3. Grade Level	0.87	6	76	0.9	3	172.75	0.8	3	41.80	0.2
4. Sex	0.98	2	38	0.5	1	58.57	0.9	1	7.88	0.1
5. District	0.89	2	38	2.4*	1	293.49	4.3**	1	268.45	3.6*
6. School w District	0.25	78	76	0.9	39	2323.6	0.9	39	2951.0	0.9
7. 1 BY 2	0.96	4	76	0.3	2	76.27	0.6	2	70.72	0.5
8. 1 BY 3	0.98	2	38	0.4	1	1.38	0.0	1	29.53	0.4
9. 2 BY 3	0.72	18	76	0.7	9	518.32	0.8	9	346.30	0.5
10. 2 BY 4	0.89	6	76	0.7	3	87.46	0.4	3	93.82	0.4
11. 2 BY 5	0.80	10	76	0.9	5	298.90	0.9	5	109.01	0.3
12. 3 BY 4	0.85	2	38	3.3**	1	430.67	6.4***	1	79.21	1.0
13. 3 BY 5	0.95	4	76	0.5	2	104.53	0.8	2	22.60	0.2
14. 4 BY 5	0.87	2	38	2.9*	1	12.63	0.2	1	196.26	2.6

*p<.10. **p<.05. ***p<.01

Table 3

Means and Standard Deviations of Factor Scores Broken Down by Selected
Demographic Characteristics

Demo Char	n	STRUO		STRUA		STRU		CONS	
		M	STD	M	STD	M	STD	M	STD
all	115	45.90	6.25	20.59	5.32	66.50	8.58	66.00	8.16
District A	51	46.06	6.29	22.00	5.43	68.06	8.34	67.45	7.67
District B	64	45.78	6.26	19.47	5.00	65.25	8.63	64.83	8.42
Males	10	47.10	4.53	21.20	6.27	68.30	6.09	65.20	5.71
Females	105	45.79	6.40	20.53	5.25	66.32	8.78	66.07	8.37
9th Grade	2	48.00	4.24	22.00	8.49	70.00	4.24	61.00	5.66
10th Grade	15	46.67	5.60	21.67	6.33	68.33	8.98	67.47	9.25
11th Grade	37	46.19	6.90	20.46	4.85	66.65	9.67	66.24	8.67
12th Grade	61	45.47	6.13	20.36	5.36	65.84	7.94	65.64	7.71
Local	108	45.68	6.26	20.52	5.19	66.25	8.30	65.77	8.10
Local & State	6	47.83	3.37	18.50	4.76	66.33	7.20	66.50	5.17
Loc State Nat	1	59.00	+	35.00	+	94.00	+	87.00	+
Male & 9th	2	48.00	4.24	22.00	8.48	70.00	4.24	61.00	5.66
10th	2	44.00	8.49	21.00	7.07	65.00	1.41	62.00	5.66
11th	0	-	-	-	-	-	-	-	-
12th	6	47.83	3.76	21.00	6.78	68.83	7.55	67.67	5.24
Female & 9th	0	-	-	-	-	-	-	-	-
10th	13	47.08	5.41	21.77	6.52	68.85	9.58	68.31	9.56
11th	37	46.19	6.90	20.46	4.85	66.65	9.67	66.24	8.67
12th	55	45.22	6.30	20.29	5.25	65.51	7.97	65.42	7.93

Notes:

STRUO are scores for original, unadapted LOQ portion.

STRUA are scores for adapted portion of adapted LOQ.

STRU as sums of STRUO and STRUA are adapted LOQ scores.

"+" = only one case, and thus no standard deviation reported.

"-" = no cases for this condition.

structure scores decreased consistently across grade levels, while the Table 2 consideration scores rose substantially between 9th (mean=61.00) and 10th grade (mean=67.47) then dropped slightly in the 11th (mean=66.24) and 12th grade (mean=65.64) but not as low as they were in the 9th grade. Sex by district, appearing sequentially in the last position in the model, while multivariately significant ($p < .10$) is not univariately significant.

Norms for the Sample

Norms descriptive of student officer performance on consideration and structure scales of the adapted LOQ are presented in Table 4. These norms are suitable for cautious use by those who may wish to apply present adaptations of the LOQ in future research for student officers at the high school level. Caution is urged because of the small number of students in the various categories for which the norms are defined. However, each norm seems to be reasonable when evaluated in the context of other findings in this study and in comparison with norms reported by Fleishman for the unadapted LOQ.

Goodness-of-fit Tests

Distributions for various breakdowns by student characteristics of adapted LOQ factor scores subjected to goodness-of-fit testing using the Kolmogorov-Smirnov algorithm of SPSSX are presented in Table 5. The reader may observe that for every breakdown the distribution does not differ significantly from the normal in terms of approximating z-scores. This provides further evidence for the tentative use of norms from the current sample in future studies and for the acceptability of the adapted LOQ, under a 2 factor, factor analysis in future research. Of course, as more evidence is accumulated on

high school student leadership opinions, the norms should be adjusted accordingly.

Educational Importance and Conclusions

This attempt to identify attributes of student leaders of HOSA has implications to one community-based mission of the high school. It is important for high schools to provide to the community developed leaders who have had leadership experience at the high school level.

On the basis of these findings, potential roles for future political, social, business, and professional leaders may be delineated. Other implications exist for those in advisory roles to student organizations. The LOQ should be administered by student advisors to all student organization members. Analyses of those scores may be helpful in suggesting candidates for student offices and for planning leadership training workshops. Future leadership training workshops should focus on training topics relevant to improving opinions that may be characterized according to LOQ criteria as structure or consideration opinions.

Table 4

Norms for Consideration and Structure Factor Scores of the Adapted LOQ
For All Cases, 2 Districts, 2 Sexes, 4 Grade Levels, and 2 HOSA Officer
Service Levels

File	all	District		Sex		Grade Level				Officer	
		A	B	Male	Female	9	10	11	12	Local	Lo St
	n=115 c s	n= 51 c s	n= 64 c s	n= 10 c s	n=105 c s	n= 2 c s	n= 15 c s	n= 37 c s	n= 61 c s	n=108 c s	n= 6 c s
99	90 93	90 93	90 94	74 79	90 93	73 65	90 92	90 94	82 81	90 92	72 75
98	87 92	82 81	87 92	-- --	87 92	-- --	-- --	-- --	80 --	85 81	-- --
97	85 81	-- 79	85 --	-- --	85 81	-- --	-- --	87 93	79 79	82 79	-- --
95	80 79	80 78	76 79	-- --	80 79	-- --	-- --	85 79	-- 78	80 78	-- --
90	75 76	-- --	74 74	72 75	76 76	-- --	-- --	76 76	75 76	75 76	-- --
85	73 74	74 76	71 72	-- --	73 --	-- --	85 75	73 75	73 74	73 74	-- --
80	71 73	-- --	70 70	70 73	71 73	-- --	71 --	-- 72	71 73	71 73	-- --
75	70 71	71 74	-- --	-- --	70 71	-- --	-- 73	69 --	70 71	70 71	-- --
69	69 --	69 73	-- --	66 71	69 --	-- --	-- --	67 --	-- --	69 --	-- --
60	67 68	67 --	-- 66	65 67	67 68	-- --	66 66	-- 67	-- --	-- --	-- --
50	65 --	66 67	64 65	-- 66	-- --	67 57	-- --	-- --	66 66	65 --	66 --
40	63 63	65 65	62 62	-- --	63 63	-- --	64 --	-- 64	-- --	63 63	-- --
31	62 61	63 --	59 60	60 64	-- 61	-- --	-- --	62 --	61 62	-- 61	-- --
25	60 60	-- 61	58 --	-- --	60 --	-- --	59 62	-- 60	59 59	60 60	-- --
20	59 59	-- 60	57 58	58 63	59 59	-- --	-- 61	60 --	58 58	-- 59	-- --
15	58 58	61 --	56 --	-- --	57 58	-- --	-- --	-- --	56 57	57 --	57 57
10	56 --	59 --	-- 56	57 59	56 --	-- --	-- --	57 57	55 56	56 57	-- --
5	54 53	55 58	53 53	-- --	53 53	-- --	-- 57	56 53	52 53	53 53	-- --
3	52 49	54 53	50 49	-- --	50 49	-- --	-- --	45 43	50 49	50 49	-- --
2	49 47	49 43	45 47	-- --	49 47	-- --	-- --	-- --	49 47	49 47	-- --
1	45 43	-- --	-- --	-- --	45 43	-- --	-- --	-- --	-- --	45 43	-- --

Notes:

-- indicates no value from the data.

Entered values are either exact, or within 2 percentile points.

Lo St are Local and State Officers.

There was just 1 Local, State, and National Officer.

Table 5

Kolmogorov-Smirnov Goodness-of-Fit z Scores for Consideration and Structure
Factor Score Distributions under Normal Assumptions Based on Observed
Means and Standard Deviations Broken Down By Selected Demographic
Characteristics

Demo Char	n	STRUO		STRUA		STRU		CONS	
		K-S z	p	K-S z	p	K-S z	p	K-S z	p
all	115	0.92	0.36	1.21	0.23	0.69	0.49	0.83	0.41
District A	51	0.92	0.36	0.73	0.47	0.63	0.53	0.94	0.35
District B	64	0.75	0.53	1.05	0.29	0.70	0.48	0.61	0.54
Males	10	0.44	0.66	0.79	0.43	0.58	0.56	0.59	0.56
Females	105	0.86	0.89	1.07	0.28	0.73	0.47	0.80	0.42
9th Grade	2	0.37	0.71	0.37	0.71	0.37	0.71	0.37	0.71
10th Grade	15	0.56	0.58	0.57	0.57	0.78	0.44	0.73	0.47
11th Grade	37	0.78	0.44	0.64	0.52	0.90	0.37	1.02	0.31
12th Grade	61	1.28	0.20	1.01	0.31	0.52	0.60	0.74	0.46
Local	108	0.84	0.40	1.14	0.26	0.64	0.52	0.82	0.41
Local & State	6	0.59	0.56	0.51	0.61	0.76	0.44	0.72	0.47
Loc State Nat	1	+	+	+	+	+	+	+	+
Male & 9th	2	0.37	0.71	0.37	0.71	0.37	0.71	0.37	0.71
10th	2	0.37	0.71	0.37	0.71	0.37	0.71	0.37	0.71
11th	0	-	-	-	-	-	-	-	-
12th	6	0.62	0.53	0.69	0.49	0.36	0.71	0.48	0.63
Female & 9th	0	-	-	-	-	-	-	-	-
10th	13	0.75	0.45	0.49	0.62	0.56	0.57	0.61	0.54
11th	37	0.78	0.43	0.64	0.52	0.90	0.37	1.02	0.30
12th	55	1.30	0.19	0.91	0.36	0.57	0.57	0.82	0.41

Notes:

"+" = only one case, thus no standard deviation reported.

"-" = no cases for this condition.

Two-Tailed probabilities are from Siegel (1956).

STRUO are scores for original, unadapted LOQ portion.

STRUA are scores for adapted portion of adapted LOQ.

STRU as sums of STRUO and STRUA are adapted LOQ scores.

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THE DEVELOPMENT OF AN INTEGRATED HUMAN SCIENCE COURSE
FOR SCIENCE CREDIT IN THE INDIANAPOLIS PUBLIC SCHOOLS

Rosie L. Hicks
Curriculum Writer
Indianapolis Public Schools
Secondary Education Division
Indianapolis, Indiana 46204

THE DEVELOPMENT OF AN INTEGRATED HUMAN SCIENCE COURSE
FOR SCIENCE CREDIT IN THE INDIANAPOLIS PUBLIC SCHOOLS

Rosie L. Hicks

Abstract: For the first time, in the state of Indiana, a model and precedent for meeting the minimum high school science graduation requirements in a health occupations program has been accomplished. Because of the national and state thrust on improving education by increasing the requirements for graduation and the sciences in particular, this project was undertaken to facilitate student completion of science courses prior to indepth health occupations coursework.

The Indianapolis Public Schools were granted permission to offer a four semester, eight-credit Integrated Human Studies course at the Health Professions Center during the summer of 1987. The course provides four credits in the science area of study (biology and chemistry) and four credits in the health professions area of study under vocational-technical education. The course reorders the biology, chemistry, and Introduction to Health Professions content so that, whenever possible, students will find immediate applications of the science content in the health professions skills they are learning concurrently. Students will use the four science credits towards the minimum science high school graduation requirements.

¹Rosie L. Hicks, is Curriculum Writer of Indianapolis Public Schools.

Introduction

Today, education is on the forefront of our nation's agenda for the 80s. The influence of this agenda is evident throughout state and local levels. Because of this urgent concern for the education of our children, many states are actively involved in improving the quality of education for their youth. So it is in the state of Indiana with its emphasis on increasing graduation requirements, its A+ program and its attention to the area of the sciences (Evans, 1987). This concern led to the development of an Integrated Human Studies course that would facilitate health occupations students taking their science courses prior to their indepth health occupations coursework.

Before detailing the development of the Integrated Human Studies course, a historical overview of Indianapolis Public Schools' Health Professions Program is presented. The Indianapolis Public School System has four Magnet programs located at three of its high schools. These programs are: The Career Center, Center for the Humanities, Health Professions Center, and The School of Performing Arts. The magnet programs are funded in part by a federal grant and in part by state vocational monies, if the program is a vocational program. Program development for each of the Magnet programs is the joint responsibility of the comprehensive school principal and staff in the curriculum division of the Indianapolis Public School Education Center. The faculty have expertise in a wide variety of job-related skills and most are licensed and practicing specialists. Facilities are designed for special kinds of

instruction (Adams, 1984).

The Magnet programs provide every student the opportunity for entry into post-secondary college level pre-professional programs and/or a marketable skill for full- or part-time employment. The program is designed to fit the student's expressed interests and abilities and encourages each individual to demonstrate competency in tasks directly related to and used in specific jobs.

A Magnet school or Center provides an elective, four-year program which is located in school facilities that uses special community resources with the school curriculum. Students enrolled in a Magnet school or Center may attend on a full- or part-time basis. A full-time student completes all other courses at the Magnet school. However, the part-time student completes all other high school course requirements at the home school. Transportation is provided for part-time students.

Class size is limited in each Magnet program. Students must apply for admission to the specific Magnet program of their choice and meet the criteria for acceptance set by individual programs. Grading focuses on observable skills. The student must demonstrate minimal competency (IPS Division of Curriculum and Supervision, 1981)

The Health Professions Center (HPC) was implemented in September of 1979 as part of the Indianapolis Public Schools' desegregation plan. The purpose of the HPC was to develop a specialized curriculum in one high school to help students make an informed choice about careers in the health professions. Initially, the program was located at Crispus Attucks High School; but was moved to Arsenal Technical High School as part of a

district wide reorganization plan in September 1986. A three-million dollar renovation project created a suite of new rooms for the Health Professions Center; the facility provides classrooms for dentistry, laboratory technology, patient care, introduction to health careers, and additional rooms for material storage and preparation.

The facility is located near nine hospitals, two large universities including the Indiana University School of Medicine and Dentistry and the Purdue University School of Science, and five major research centers including the Indianapolis Center for Advanced Research, the Hudson Institute, the Regenstrief Center for Physical Therapy, the Fortune-Fry Center (research in ultra-sound imaging), and the National Sports Medicine Research Center. Curriculum and staff development have been strengthened through the formation of a strong and viable advisory committee consisting of individuals from health care agencies, higher education, and the Indianapolis Chamber of Commerce (HPC Grant Proposal, 1986).

Ample time is available in a four-year high school program to meet academic graduation requirements and to elect the four years of Health Professions Center courses. All course units are written by health professionals and include essential job entry skills in a health career. The initial course meets the Indiana Department of Education's graduation requirement for health. Each unit identifies three to five specific skills and the level of performance required on a mastery test when the student is ready to be tested. The unit also recommends specific activities and resources that are to be used. Each unit can be self-instructional and students are encouraged to use the unit to guide

their own study. All units require average grading comprehension at the seventh grade reading level (IPS Division of Curriculum & Supervision, 1981).

The instruction in the Health Professions Center is competency based and criterion-references. Each objective is tied directly to a job title or job task and is introduced to students as part of an instructional unit. Learning objectives are sequential; those mastered in entry courses are not repeated in advanced level courses. Continuous progress is encouraged for all students; objective mastery is on can do/continue or can't do/restudy continuum. Grades are pass-fail. Demonstrating skills in classroom simulations initiate competency development; performing skills with real patients in hospitals, nursing homes, or outpatient clinics measurably improve confidence and competency. On-the-job experiences are available for up to four hours per day for students who have completed six semesters of the program.

In September 1984, the criteria established for program entry were scores at or above the student's grade level on the subtests in math, science, and reading comprehension as measured by the Iowa Test of Basic Skills. Prior to this date the entrance requirement was that a student only needed to have an interest in a career in health professions.

The HPC is managed by the school principal and a part-time Director who also teaches. Every HPC staff member is a licensed registered or certified professional including such specialties as a Licensed Practical Nurse, Dental Assistant, Registered Nurse, Medical Technologist, and Medical laboratory Technician. Curriculum development and academic

support activities are coordinated by the Indianapolis Public Schools' science supervisor; staff training and vocational relationships are coordinated by the Indianapolis Public Schools' supervisor of Vocational programs (HPC Grant Proposal, 1986).

This extensive background information has been provided to help the reader better understand the operations and management of the Health Professions Center, its design and relationship to a broader system, namely, the Magnet programs and the Indianapolis Public School System, respectively.

The enrollment in the HPC began to decline in 1983 (Adams, 1984). As a result of interviews and the Introduction to the Health Professions Center survey with teachers and staff, this was partially attributed to the high school counselors' lack of awareness regarding HPC course preparation. It was felt by teachers and staff that fewer and fewer academically talented students were entering the program. The Health Professions Center is also a vocational program and thus is hampered by the fact that counselors do not recognize the relevance and importance of the Health Professions Center students displaying an interest in and having a basic foundation in science and science-related courses prior to or during their studies in the Health Professions Center. It was feasible, to them, for students to complete their science graduation requirements any time before graduation, even until the very end, such as the junior or senior years. This, many times, would be after all Health Professions Center studies were over except for the cooperative experiences. Many HPC students had not prepared themselves adequately in

the sciences to succeed in their advanced HPC course work. Because of the difficulty of the advanced studies in HPC, students lacking the science courses were faced with such anxiety and frustration that they became discouraged and chose to leave the program. Thus, the purpose for developing this course was to provide the HPC student with the science background needed for indepth studies in HPC.

Therefore, the curriculum staff decided that the integrated course would be taught the freshmen year to replace the Introduction to the Health Professions Center course. The integrated course would be a combination of science (biology and chemistry) and health professions content, skills, and careers. The intent was to satisfy the students' science requirements for graduation and at the same time provide the basic background deemed necessary to help these students pursue their studies in the Health Professions Center program more successfully and effectively. It would also assure that science was taken prior to any indepth studies in the Health Professions Center and the integrated approach would simultaneously introduce students to the health professions and maintain their interest level while at the same time showing them the relationship of science to health professions.

To accomplish this task, many hours of planning, developing, and revising were consummated. The first task undertaken towards developing the integrated course was to begin organizing ideas. A listing of skills performed by health professionals was developed using Project HOPE's technical report (Indiana State Board of Vocational and Technical Education, 1977. Project HOPE: Technical Report). In 1974, in the state

of Indiana, Project HOPE was designed to develop a comprehensive competency based Health Occupations Education program. Competencies (knowledge, skills, or behaviors) would be devised and validated by job incumbents. In the performance based student training component, the report identifies job titles and skills in the Allied Health field for which training could be provided at the secondary and post secondary, but less than baccalaureate levels. The validated task inventory for each of the identified job titles was used and the skills were sorted into three categories for each health profession: entry, technical, and professional skills. Entry level skills are minimum, job entry level skills required in each profession; technical skills are those additional skills that equip and prepare an individual for certification and professional skills are those that prepare an individual for post-secondary study in the health professions.

Content was identified for these skills in the health professions and matched to science (biology and chemistry) content. For example, the biology topic, Protists, was matched with the health professions content, Infectious Diseases. Content & skills were review by the Indianapolis Public Schools' science supervisor and the Health Professions Center Advisory Committee. Upon receiving their approval, further development of the Integrated Human Studies course progressed.

In the HPC, each course contains a specific number of instructional units. More than 200 units have been developed by Health Professions Center staff. A particular course may be composed of 20 or more of these units. In the previous course, Introduction to Health Professions, there

are approximately 20 self-instructional units (IPS Curriculum & Supervision, 1981). These units were matched topic-by-topic with science (biology and chemistry) content. Course descriptions and objectives for each topic were written. Each topic included objectives that were a combination of both science (biology and chemistry) and health professions content, skills, and careers. Table 1 shows how the objectives for a topic are inclusive of both science and health professions content, skills, and careers.

Beginning with the 1986-87 school year, a pilot course was taught to freshmen students. The course using a team teaching approach, was taught by a licensed science teacher from the science department and a licensed and certified health professional from the HPC. The Integrated Human Studies course met two hours per day over two semesters. At the end of the school year, from the results of test performance by students (written and practical) and evaluations made by teachers, three problem areas were defined. First, science teachers felt they had inadequate time to provide instruction in the necessary content areas. Second, because of the expressed lack of science preparation equal to that of their co-worker, the health professional felt inadequate in making suggestions of application that could be included in the science lesson. In addition, combined lesson preparation with both teachers working together was lacking resulting in the science instructor controlling lesson content. Thus lessons were directed toward the sciences rather than towards an integration of the science with health content. The third problem was time. Teachers from both areas vied for adequate time. In many

instances, teachers took turns in meeting with the class so that health professions could be discussed. This reduced the amount of time that each teacher had for their individual lessons and lacked an integrated approach.

Table 1

Objectives Inclusive of both Science and Health Professions Content,
Skills and Careers

The Nervous System, Reflexes, Brain and Sense Organs

- *1. Explain the functions of a nervous system.
- *2. Define the word stimulus.
- *3. Describe the structure of a neuron and give the function of each of its parts.
- *4. Define reflex and give examples of reflexes that are helpful.
- *5. Explain how reflexes work.
- *6. Discuss how brain imaging is used in diagnosis.
- *7. Relate pressure and dynamics to the function of cerebrospinal fluid.
- *8. Discuss the preparation, care and need for a lumbar puncture.
- *9. List the various types of serologic, microscopic, chemical and microbacteriologic examinations performed on csf.
- *10. Describe the formation, clinical diagnosis and treatment for meningitis and polio.
- *11. Describe the formation, clinical diagnosis and treatment for neuroblastomas, (retina, ganglia).
- *12. List the steps of light in the pathway through the eye to the brain.
- *13. Identify at least five career opportunities in the profession of visual rehabilitation.
- *14. Discuss the required type of training and duties performed by each career area identified in visual rehabilitation.
- *15. Describe the parts and function of the eye and describe various eye disorders.

SKILL/ACTIVITIES:

- 1. Perform simple reflexes such as knee, elbow, and toe.
- 2. Perform Snellen eye test and calculate vision.
- 3. Test hearing with a tuning fork.

*Science Component

During the summer of 1987, revisions were made in the course. The combined objectives (science and health professions) were revised topic-by-topic. The science objectives were matched to the state science proficiencies. Because more instructional time was needed, the Integrated Human Studies course was made a four-semester course and divided into Integrated Human Studies I, II, III, and IV. Integrated Human Studies I and II is the biology component integrated with health professions and Integrated Human Studies III and IV is the chemistry component integrated with health professions.

Several meetings were held with the State science supervisor in which the objectives were analyzed, reviewed, and revised as needed. After these meetings, the State science supervisor approved the course and the State vocational education consultant reviewed the final product and presented the course to the State Board of Education for the purpose of requesting science credits.

In July of 1987, the State Board of Education granted the Indianapolis Public Schools permission to offer a four-semester, eight-credit Integrated Human Studies course as part of its science program with four credits in health professions and four credits in science. Students who successfully complete the course will use the four science credits to fulfill the minimum high school science graduation requirements.

Beginning with the 1987-88 school year, the Integrated Human Studies course was initiated. During the first and second semesters of the program, students will be taught for one class period by a licensed

biology teacher and one class period by a licensed and certified health professions teacher. During the third and fourth semesters of the program, students will be taught one class period by a licensed chemistry teacher and one class period by a licensed and certified health professions teacher.

Conclusion

The development of the Integrated Human Studies course has met the State requirements for science. It also meets the students' need to complete science prior to their indepth health professions coursework. The efforts of the Indianapolis Public Schools can be used as a precedent for other Health Occupations programs which desire to receive science credits through their programs.

Teachers involved in the instruction of the Integrated Human Studies course attended an inservice in August of 1987. They received instruction in how to integrate and use the text, course guide, and the previously used, Introduction to Health Professions self-instructional units. Activities, lesson plans, and syllabi were prepared to be used by the teachers and students.

Activities are continuing to be developed on an ongoing basis and testing materials are being developed. This course will be evaluated in three years by the Indiana State Department of Education. An internal evaluation team is preparing an evaluation model to be used by the Health Professions Center to evaluate the program on a more frequent basis.

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MULTICOMPETENCY EDUCATION AT METHODIST HOSPITAL OF INDIANA, INC.
RESEARCH, ADD-A-COMP R PROGRAM IMPLEMENTATION, AND
RESULTS-TO-DATE

Sherry Makely, M.S., RT-R, Director
ADD-A-COMP R Program
Connelly Allied Health Education Center
Methodist Hospital of Indiana, Inc.
1701 N. Senate Blvd.
Indianapolis, Indiana 46202
317/929-3282

MULTICOMPETENCY EDUCATION AT METHODIST HOSPITAL OF INDIANA, INC.
RESEARCH, ADD-A-COMP^R PROGRAM IMPLEMENTATION, AND
RESULTS-TO-DATE

Sherry Makely

Abstract: Research on the multicompetent or multiskilled health care practitioner concept has been on-going at Methodist Hospital since 1984. Contacts were made with many accrediting, credentialing, regulatory, and professional organizations for input and assistance. A computer search of the literature was conducted. Initial investigation identified potential impact on the health care system as well as related issues and current approaches to educating and employing workers who can perform in more than one skill area. Methodist Hospital implemented its ADD-A-COMP^R Program in 1986 using add-on education for credentialed health care workers who wish to acquire additional competencies. Modular instruction is offered to meet the needs of individuals and their employers. To date, thirty-seven individuals have graduated from the program with five others currently enrolled. Sixty-seven percent of these individuals attended under sponsorship of their employers.

¹Sherry Makely, M.S., RT-R is Director of the ADD-A-COMP^R Program at Methodist Hospital of Indiana, Inc.

Task Force History And Research

The faculty of the Connelly Allied Health Education Center at Methodist Hospital in Indianapolis first became interested in the multicompetent health care practitioner concept during the fall of 1984. Faculty members were familiar with the generalist nature of nursing and medical practice of years ago and were aware of cross-training being done in many small, rural hospitals. They, however, were not familiar with the new multicompetent practitioner concept and identified four primary questions:

1. What is a multicompetent practitioner and what contribution could this type of worker make to the health care system?
2. Where are multicompetent workers being employed and what other settings would be appropriate in the future?
3. How are multicompetent workers being trained and what other approaches would be appropriate in the future?
4. What are the implications for Methodist Hospital in terms of both the education and employment of multicompetent workers?

A task force was created to conduct research and make contacts with accrediting, credentialing, regulatory, and professional organizations. Information, resources, and opinions were gathered and analyzed. A computer search produced only a few published articles. Friedman (1979) described the multidisciplinary or multicompetent worker as someone who wears several hats to function in different capacities as needed. She described the situation at Caribou Memorial Hospital in Soda Springs, Idaho, where the pharmacist, purchasing agent, materials manager, and

chaplain are all the same person. According to the hospital's administrator, who was hired because they needed a laboratory technologist who could also take x-rays and run the hospital, "Most of the employees wear several hats whether they work in the clinical services department, in fiscal services, or in maintenance work . . . We combine duties to provide our community with the best possible cost to our patients" (p. 115).

Blayney (1982) described the problem facing the health care system and how employment of multicompetent workers could help:

From a management viewpoint, overspecialization in allied health disciplines, in many instances, contributes materially to under-utilization of personnel thereby resulting in significant additional costs of delivering health care. For the past three decades, the trend in allied health has been toward specialization, sometimes to the point of ludicrousness. Within the last half-dozen years, some indications have suggested that some reversal of the trend is developing . . . That there is a need for the development of additional training programs designed around the actualities of the employment arena is evident. Such moves at this time might well do as much to contain the rise in costs of health care delivery as anything else we might undertake (pp. 13-14).

Clark (1979) reviewed employment data collected from small and rural hospitals and physician groups indicating that multicompetent technicians were an important part of the workforce in those settings. He concluded that there were financial benefits to employing multicompetent workers and

that more would probably be employed if they were readily available.

The Methodist Hospital task force knew that 75% of all hospitals in the United States had 200 beds or less and, due to unprecedented competition and need for cost-effectiveness, health care providers of all types and sizes were searching for ways to trim expenses while maintaining services and quality care. When approximately 60% of operating budgets is attributed to personnel costs, increases in staff productivity can result in substantial savings. It seemed apparent that more educational programs would be necessary to prepare large numbers of formally trained, multicompetent workers to meet the anticipated need.

The practitioners themselves recognized the need for additional competencies, according to Bamberg and Blayney (1984). Graduates of baccalaureate programs in dietetics, occupational therapy, and physical therapy were found to have self-felt needs for additional competencies outside their professions, although medical technologists did not.

The task force continued its research into the history of multicompetency education. Morgan (1986) described the medical corpsman and pre-1960 registered nurse as early generalists. He related the first venture in training multicompetent technicians in the mid-1960's in Maryland which evolved into the practitioners known today as mental health technicians. In St. Louis in 1961, a program was created to train medical services technicians adept in EEG, EKG, respiratory therapy, and pulmonary function testing. Due to graduate credentialing difficulties, however, the program was revised into purely respiratory therapy education. In the early 1970's, Dr. E.G. Metropoulos in Michigan began training medical

clinical technicians for his small group practice. His medical generalists could take basic x-rays, draw blood, check vital signs, and conduct procedures in EKG, ultrasound, nuclear medicine, and pulmonary functioning. Graduates were recognized as journeymen through this apprenticeship program.

In 1974, the University of Alabama at Birmingham created a program to train multiple competency clinical technicians. These individuals were medical assistants with additional competencies in medical laboratory and radiography. The associate degree program prepared workers for physician offices, group practice clinics, and small hospitals (Morgan, 1986). Also in 1974, Southern Illinois University at Carbondale officials met with area hospital administrators to plan an educational program to meet local needs. With funding by the Bureau of Health Manpower, the Rural Allied Health Manpower Project resulted in a model program where students could choose two out of three fields of study including radiography, respiratory therapy, and laboratory techniques (Morgan, 1986).

The Methodist Hospital task force identified three additional programs in Ohio, Oklahoma and Colorado. A new associate degree program was being offered by the Columbus Technical Institute in Columbus, Ohio. Students in the Multi-Competency Health Technology Program selected two or more options among histology, phlebotomy, EKG, basic medical lab skills, EMT, advanced EMT, and respiratory therapy (R.M. Snider, personal communications, March, 1985).

Christian (1985) described the Sayre Junior College approach in Oklahoma that had expanded its clinical laboratory program to include

basic radiography skills. Graduates, known as combination techs, met area needs and were later employed in surrounding states as well.

Friedman (1981) described the Health Care Technician Program at Denver General Hospital in Denver, Colorado. The program offered a three-level career ladder for hospital attendants to acquire a variety of more challenging duties. Friedman reported a storm of protest, especially among the Colorado nursing community, for what appeared to be an attempt to replace nurses with unlicensed workers. As of the date of the article, "The storm has abated now, to a large extent, and the program has taken shape" (p. 159).

The Methodist Hospital task force had also become aware of the controversy surrounding the multicompetency concept in general. While some were convinced of the benefits, others were voicing opposition. This was especially true of some professional organizations that had worked for years to carve out their piece of the turf. Many issues and concerns had been identified, relating to both the education and employment of multicompetent workers:

- . Who will do the training--hospitals? colleges?
- . How will current education programs be affected?
- . How should programs be set up and on what level?
- . What are the likely competency combinations?
- . Will new accrediting and credentialing agencies be needed?
- . How will employment of these workers affect quality of care?
- . How will competencies be assessed and verified?
- . What liability issues might result?

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- . Will these workers have recognized credentials and mobility?
- . What legal barriers exist due to licensure, certification, and other regulations?
- . Will employing multicompetent workers result in significant savings?
- . How will job descriptions be written?
- . If a worker spends time in two different departments, to whom are they accountable?
- . How will they be compensated when working at jobs with two or more different pay grades?
- . Will workers with additional competencies be paid more than specialists?
- . How will workers maintain competencies when assigned to an area for only a limited amount of time?

The need for change, coupled with human resistance to change, resulted in concern and apprehension. This was especially true for educators who already felt the pressures of bulging curricula.

By the fall of 1985 when the Methodist Hospital task force was completing its research, widespread interest in the multicompetency concept appeared inevitable. A headline of a 1985 Allied Health Education Newsletter declared: "MULTICOMPETENCY: NOT 'WHETHER' BUT 'HOW'". In the publication, Lugenbeel (1985) related the opinions of hospital administrators with whom he had met:

In hiring entry-level allied health personnel, we are asking if they have any additional skills beyond their single specialty. If yes, they are top rated. If no, we ask if they are willing to add

new/different skills. Again, if yes, they are rated next to the top; if no, they move to the bottom of the hiring list (p. 1).

Lugenbeel concluded, "Skills enhancement of allied health personnel is now being viewed as a health care delivery strategy whose time has come" (p. 1).

Having ascertained the value of the concept and interest among the hospital's allied health faculty to become further involved, the task force identified implications for Methodist Hospital. Methodist Hospital of Indiana, Inc., an 1100-bed tertiary care medical center and the 11th largest private teaching hospital in the United States, emphasizes both education and research as parts of its mission. At the time, the Connelly Allied health Education Center employed thirty full-time faculty and staff members to offer 17 hospital-based and college-affiliated educational programs and services. Task force members, along with other faculty,, started planning a new multicompetency education program. Human, financial, and physical resources and constraints were identified. Based on the model approach being considered, it was agreed that a unique and innovative program could be offered with no additional FTEs (full-time equivalent personnel) and no major capital expenditures. One advantage, characteristic of hospital-based education, was noted. Administrative approval and program implementation can both be streamlined and relatively quick processes.

With regard to employment implications, several issues were identified by the hospital's division of Human Resources and Organizational Development (HROD). Most issues related to hospital employees going

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through the new program. It was decided that each issue would be handled as it occurred between the HROD division and the department involved. There was uncertainty as to the potential benefit for Methodist Hospital, itself, as an employer of multicompetent workers. Being large and highly specialized in its departmental organization, would there be a need for the hospital to put people through the program? Utilization by the main hospital campus would probably be limited. However, the hospital had extensive associations with area hospitals through shared services and as part of a preferred provider organization. Also included were satellite imaging centers, neighborhood health clinics, industrial health clinics, home health care, and a large physician alliance. It was agreed that benefits from the new program for these associates could be substantial.

Early in 1986, the task force issued its research report and proposal for the new program to be called ADD-A-COMP^R, abbreviated for Add-a-Competency. The program received immediate approval and the first phase was implemented a few weeks later. The task force was replaced with operational committees to conduct the program. Since the name of the program was innovative and referred to the model approach it involved, designation as a registered servicemark was obtained.

ADD-A-COMP^R Program Implementation

ADD-A-COMP^R is Indiana's first formal educational program to prepare multiskilled or multicompetent health care practitioners. Its model approach appears to be unique in the United States. The program was implemented in the spring of 1986 with new modules brought on-line during the year. No new staff were hired to conduct the program although some

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current faculty members were cross-trained in preparation for their new/additional responsibilities. Start-up costs which included marketing expenses and consultant fees for designing self-directed learning packets were minimal. The hospital-based program uses add-on education, designed for individuals already working in health care who wish to acquire additional skills/competencies within their discipline or in a different area. Admission into all but two modules requires prior training and experience in some aspect of health care with a recognized credential in that area, when available. Some modules have additional illegibility requirements. Qualified applicants include, but are not limited to:

- | | |
|----------------------------------|---------------------------------|
| . respiratory therapists | . electrocardiographic (EKG) |
| . medical assistants | technicians |
| . nuclear medicine technologists | . electroencephalographic (EEG) |
| . laboratory personnel | technicians |
| . radiographers | . emergency medical technicians |
| . phlebotomists | (EMT's) |
| . sonographers | . nurses |
| . paramedics | |

Paramount to the ADD-A-COMP^R philosophy, each applicant is assessed as an individual. Module admissions committees are strongly encouraged to be open-minded and innovative in selecting what type of health care worker may enter into what type of module. To date, eleven separate and independently operated modules of instruction are offered:

- | | |
|--------------------------------------|-------------|
| . Laboratory & Phlebotomy Techniques | . Paramedic |
| . Basic Cardiac Life Support (CPR) | . EKG |

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- . Advanced Cardiac Life Support (ACLS)
- . Ultrasound Technology
- . CPR Instructor Training
- . Computerized Tomography (CT)
- . EMT
- . Advanced EMT
- . Trauma Life Support

Two new modules, EEG and Echocardiography, are in the design phase. Requests from area employers for the development of new modules are encouraged and reviewed based on the availability of resources. Both EEG and Echocardiography are examples of such requests. The program also offers custom-designed modules to meet the specific needs of an individual or an employer. Applicants may test-out and receive advanced placement based on prior training and experience.

This modular menu of options permits the individual or employer to select one or more modules to meet individual needs. Length of modules varies from one day (CPR) to one year. Tuition also varies based on module length, curriculum and level of training provided. Method of instruction also varies. Some modules incorporate self-directed learning packets in lieu of didactic classes. Others rely on didactic instruction and laboratories. All require practical experience. All modules are conducted by the full-time faculty of the Connelly Allied Health Education Center in conjunction with clinical departments of Methodist Hospital.

The ADD-A-COMP^R model approach offers a great amount of flexibility. Many modules are offered throughout the year with class capacity relatively low. Small enrollments and use of self-directed learning packets permit staggered start and end dates and some overlapping. As a method of efficiency and cost-effectiveness,

instruction in some modules parallels with that offered in other allied health programs conducted at the hospital.

Many students attend the program under sponsorship by their employer. The condensed, short-term nature of some modules is helpful when an employee must be released from work for a period of time to attend the program. In most sponsorship situations, the employer pays the employee's salary while in training as well as expenses for tuition, books, and housing. In exchange, the employee may be required to sign an agreement obligating them for a specified period of employment after completing the module.

Program graduates receive a Certificate of Completion from Methodist Hospital. In many cases, graduates are eligible for credentialing through the appropriate agency after the required amount of work experience has been obtained. Students may also earn college credit which can be applied towards degree requirements through Ball State University.

When ADD-A-COMP^R Program was designed, seven of the eleven modules were already being offered at Methodist Hospital. Four totally new modules were developed just for ADD-A-COMP^R : Laboratory & Phlebotomy Techniques, EKG, Ultrasound Technology, and Computerized Tomography. For the purposes of ADD-A-COMP^R reports, data from only these four new modules are used. Data from the other seven modules are maintained as part of those courses or programs as they all continue to exist independent of the ADD-A-COMP^R Program. Table 1 provides information on these four modules with respect to length of training, curriculum, and tuition.

Table 1

General Module Information

Module	Length	Curriculum	Tuition
Computerized Tomography	3 months	480 hrs. clinic; self-directed learning packet	\$ 750.00
Ultrasound Technology	4 months	640 hrs. clinic; self-directed learning packet	\$1000.00
Electrocardiography (EKG)	3 weeks	10 hrs. classes & lab; 110 hrs. clinic; self-directed learning packet	\$ 300.00
Laboratory & Phlebotomy	12 weeks	205 hrs. classes; 215 hrs. clinic	\$ 400.00

Results-to-Date

The ADD-A-COMP^R Program has been marketed primarily to employers in the State of Indiana. However, through word-of-mouth and as a result of many presentations at state, regional, and national conferences, individuals desiring to attend on their own have applied also. A total of 37 people have graduated to date with 5 currently enrolled. Of the 42 people who have attended, 28 (67%) were sponsored to attend by their

employer. Of those 28 sponsored to attend, 19 (68%) were sponsored by Methodist Hospital. Table 2 provides enrollment and sponsorship information.

Table 2

Enrollment Statistics

	Total #	# Currently	# Sponsored
<u>Module</u>	Graduates	Enrolled	by Employer
Computerized Tomography	13	2	12
Ultrasound Technology	8	3	7
Electrocardiography (EKG)	13	0	8
Lab & Phlebotomy Techniques	3	0	1
TOTALS	37	5	28

Implications

Applicant response has been very good, especially in Computerized Tomography and Ultrasound Technology. Both modules have an 8-month waiting list. As an interesting side note, applications have already been received for the EEG module, yet to be announced. use of the program by employers, and especially by Methodist Hospital itself, has exceeded

expectations for this point in time. The number of applicants has steadily increased over time and this is expected to continue.

The program has generated significantly more interest nationally than anticipated by the task force. Many individuals have cited the program for its innovative approach and versatility. Methodist faculty have been invited to speak at many conferences. Representatives of several institutions have consulted with Methodist faculty for assistance in designing programs of their own. There has also been substantial interest in availability of the self-directed learning packets for use in other hospitals and educational institutions.

The program has encountered a few complications that have since been resolved. Overall, ADD-A-COMP^R is off to a good start. The first graduate follow-up study will be conducted in the coming months, tracking graduates to gather and report data assessing the true impact of the program. In the meantime, what appeared to be a shot in the dark by the task force more than three years ago, now seems to be right on the mark. It appears that ADD-A-COMP^R is well positioned for this phase in the evolution of the American health care system and that other ADD-A-COMP^R type programs may be developed elsewhere in the future.

Update

After the task force completed its research and the program was implemented, several other developments occurred which need to be mentioned briefly to update the reader. In Birmingham, Alabama, in February of 1986, more than 140 people from 34 states and 4 foreign countries attended an international conference on the topic sponsored

by the University of Alabama, at Birmingham, the American Hospital Association and the Kellogg Foundation. Three follow-up regional conferences were conducted by the American Hospital Association and collaborative organizations. Methodist Hospital sponsored a national conference for allied health educators in July, 1987, devoting two days to the concept. One day brought together more than 40 people for the first Support Group Meeting for educators conducting or planning multicompetency education programs. A second day brought together more than 120 educators and employers to discuss issues, needs, and approaches that are working. In the fall of 1987, a National Multiskilled Health Practitioner Clearinghouse was created at the University of Alabama at Birmingham through funding by the Kellogg Foundation. The Clearinghouse plans to issue a newsletter and conduct a major research project as it assists people who are interested in the concept. The ADD-A-Comp R Program Director was invited to serve as a member of the Clearinghouse's Advisory Board.

Many articles on the concept have been published since the task force completed its research. Beachey (1986) challenged his professional colleagues to see beyond the "professional hierarchies in health" that complicate collaborative efforts in practice. Thaler (1986) also addressed the turf issue, "One of the biggest obstacles that we will have to overcome in order to train multi-skilled technologists is territorial professionalism" (p. 1). Nagel (1986) called for differentiation between the terms multiskilled and multicompetent, believing that only those with credentials should be considered multicompetent. Goldsworthy and Meyers

(1986) as well as Roush, Fasser, DeBell, and Nathanson (1986) discussed the role that dual credentialing could play in setting up educational programs. Additional manpower studies were conducted by Collins (1987) and Low and Weisbord (1987). Both studies found positive support among employers for multicompetent practitioners.

Blayney's (1986) statement appears to summarize it best:

The time has passed when American health care delivery can afford the luxury of inefficiency. Despite the barriers established by accreditation, certification, licensure, or policy statements by any group, changes in the direction of multiple competency are coming and will occur (p. 278).

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HOSPICE CARE
COMPREHENSIVE AND COMPASSIONATE CARE
OF THE TERMINALLY ILL

Gerald H. Holman, M.D.
Executive Director and Medical Director

St. Anthony's Hospice and Life Enrichment Center
P.O. Box 950, Amarillo, Texas, 79176
(806) 378-6743

HOSPICE CARE:
COMPREHENSIVE AND COMPASSIONATE CARE OF THE TERMINALLY ILL

Gerald Holman, M.D.

Abstract: This article outlines critical elements of Hospice care stressing Hospice philosophy, the types of care provided, the Interdisciplinary approach to patient and family support, specific experiences with the dying, and the responsibility of Hospice to the care of AIDS patients.

Introduction

Hospice care is somewhat difficult to define. This is in part because the term "hospice" dates back to the middle ages and has had different meanings over the years. Furthermore, hospice care today is characterized by very diverse organizational patterns and systems of care. It is perhaps best defined as "a program of care" which recognizes the biopsychosocial, and spiritual dimensions of man.

¹Gerald H. Holman, M.D. is the Executive and Medical Director of St. Anthony's Hospice and Life Enrichment Center, Amarillo, Texas.

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The Origins of Hospice

The term "hospice" originally, in medieval times, a house of hospitality for pilgrims, acquired a fresh meaning with the opening of St. Christopher's Hospice in Sydenham, England in 1967. Early christian and medieval hospices, places of rest and refreshment for weary travelers, formed the basis of the concept of providing a place of rest and comfort for those, traveling the path of a terminal illness.

The name hospice was first used for the care of dying patients by the Irish Sisters of Charity originally organized by Sister Mary Aikenhead in 1815 in Dublin. As the order grew a prayer vigil began in 1867 when two nuns began their prayers for the establishment of a place to care for the terminally ill. Our Lady's Hospice in Dublin was opened in 1879 when the Sisters of Charity were able to convert their convent home into a place of care for the terminally ill. The first patient, a 22 year old medical student dying of tuberculosis was admitted in September 1879.

The Sisters of Charity, from their Dublin beginnings, took the hospice concept to London, by opening St. Joseph's Hospice in Hackney in 1905. Both Our Lady's Hospice and St. Joseph's Hospice stand today having grown with the times in the provision of high quality hospice care.

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About the turn of the century a number of homes of different titles and different religious foundations opened with similar concerns for the poor and dying particularly those dying from cancer or tuberculosis. Nevertheless, it remained true that the majority of patients with terminal illness remained dying in general hospital wards or at home, although the Marie Curie Memorial Foundation Homes, the first of which opened in the early 1950's in England, assisted with the care of such patients.

The modern hospice movement, however, clearly began with the pioneering vision and work of Dame Cicely Saunders, M.D. Dr. Saunders, first as a nurse then as a social worker and finally as a physician, began her work with the dying and the management of their pain and other symptoms during the middle part of this century. Through her vision and earnest work St. Christopher's Hospice in Sydenham, England was opened in 1967 and has become the brilliant center of the worldwide hospice movement embracing care evaluation and research. Dame Cicely Saunders recognized the importance of the bio-psycho-social and spiritual elements of each of us and fostered the concept that all these elements must be addressed if one is going to relieve the suffering of patients and families as death approaches.

The establishment of the first hospice in this country was in New Haven, Connecticut, in 1970, initially as a home care program

and finally and with an inpatient component opening the first free-standing hospice in this country in 1976. About this time a "palliative care unit" was opened in 1975 at the Royal Victorial Hospital in Montreal, Canada under the leadership of Dr. Balfour Mount. This hospital based unit is another organizational approach.

As in England, the hospice concept has rapidly grown in this country. From these early beginnings just a few years ago, the National Hospice Organization has estimated that over 1,800 programs of care for the terminally ill now exist in this country (1988).

Organizational Systems

The rapid growth of hospice programs of care has taken on various organizational forms. Some are home care only, working as a community based operation not for profit or as part of an established visiting nurses system of care. Some home care programs have established links with hospitals for the inpatient phase of care should that be necessary. A second system is, a free-standing hospice unit, usually this is a less common form in this country, although it is a very common mode of organization in Great Britain. Financial restraints in that country probably preclude many more free-standing programs developing in England. Much of this article will be based upon the experience of St.

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Anthony's Hospice and Life Enrichment Center, a freestanding unit which is unique in being physically connected to a general hospital. Thus, availing itself of all of the hospital services while standing as an independently constructed, specifically designed entity for the care of the terminally ill. The third major organizational approach, originated on this continent in Montreal, is a hospital based program usually with the provision of home care as well. These programs may be discreet units within the hospital or adopt the so called scatter bed system throughout a hospital. Some programs have employed swing beds on a nursing unit and rather than the scatter bed concept. However, all hospice programs have certain common elements in order to provide competent, science-based, comprehensive, compassionate care for the terminally ill.

Hospice Philosophy

Even in medieval times a religious or spiritual component aided in the refreshment of weary travelers. It has been our experience that comprehensive hospice care cannot be provided without recognizing the centrality of the spiritual elements of each person. This was also, clearly, a seminal part of the original hospice concepts espoused by Dame Cicely Saunders as she developed St. Christopher's Hospice.

At St. Anthony's Hospice we have developed the following

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philosophy:

1. Each person is a unique human, having dignity as a child of God, as a member of a family and a particular community.
2. Each individual's attitudes, feelings, and needs are significantly influenced by his/her family and community and they need special care and support together in the experience of dying and death.
3. Patient-family centered care commences with recognition and respect for the dignity and rights of individuals.
4. Participation by the individual and their family in decisions that affect their lives best assures that their needs are met.
5. An interdisciplinary approach of professional persons and volunteers best assures that the physical, psychological, spiritual and social needs of the patient and family are met.
6. Continuity of care with strong emphasis on communication within a multi-disciplinary approach will lessen the isolation and loneliness often experienced by terminally ill persons.
7. The terminally ill patient can experience "fullness of life" while preparing for a death that is personally

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satisfying and meaningful.

8. Surroundings that are as familiar and as stress-free as possible provide best for the experience of the fullness of life within the limitations of a terminal illness.
9. Quality terminal care can best be assured when all personnel are functioning at a high level of loving commitment and when their activities are governed by the individual needs of the persons under their care.
10. Harmony and satisfaction can best be achieved for all when each person, whether serving or being served, is treated with dignity and justice.

General Features of Hospice Care

The primary objective of the hospice program is the provision of competent, compassionate, science-based, comprehensive care for terminally ill patients and their families. Death is seen as a part of life, not to be denied, but rather accepted as a component of the continuing of our life with our creator. Certain cardinal principles of hospice care are part to a greater or lesser degree of all hospice programs whatever their mode of operation. Many hospices only accept the care of cancer patients with terminal illness. Others accept patients of all ages with all types of terminal diagnoses, as is the case in our hospice. In each, however, the following criteria seem to be recurrent:

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1. The patient must have a diagnosis of a terminal illness and a life expectancy of six months or less. Those hospices who care for patients with Acquired Immune Deficiency Syndrome (AIDS - see later) have at times modified this definition because of the slow progress in some patients with this illness, and have extended the life expectancy requirement to 9-12 months. In most programs hospice care is ordered by the patient's physician although some programs accept patient referral directly.

2. The patient and their family must consent to hospice care and understand that it is only non-curative, palliative, symptom control and comfort care that is provided by the hospice program. It is important that the patient and the family understand that hospice care is primarily a home care program with the use of inpatient stays for only short-term, crisis management. It is interesting to note that although hospices in Great Britain began largely as institutionally based inpatient care centers more and more they have added home care programs. Indeed Our Lady's Hospice in Dublin only added their home care phase in 1985. About 70% of the programs in this country require a person in the patient's home called a "primary caregiver" in order to insure that the hospice staff have someone with whom they can work to assure the patient's comfort and safety while living at home. A challenge yet unsolved for many hospice programs is how to provide care for those

terminally ill patients who do not have a primary caregiver available.

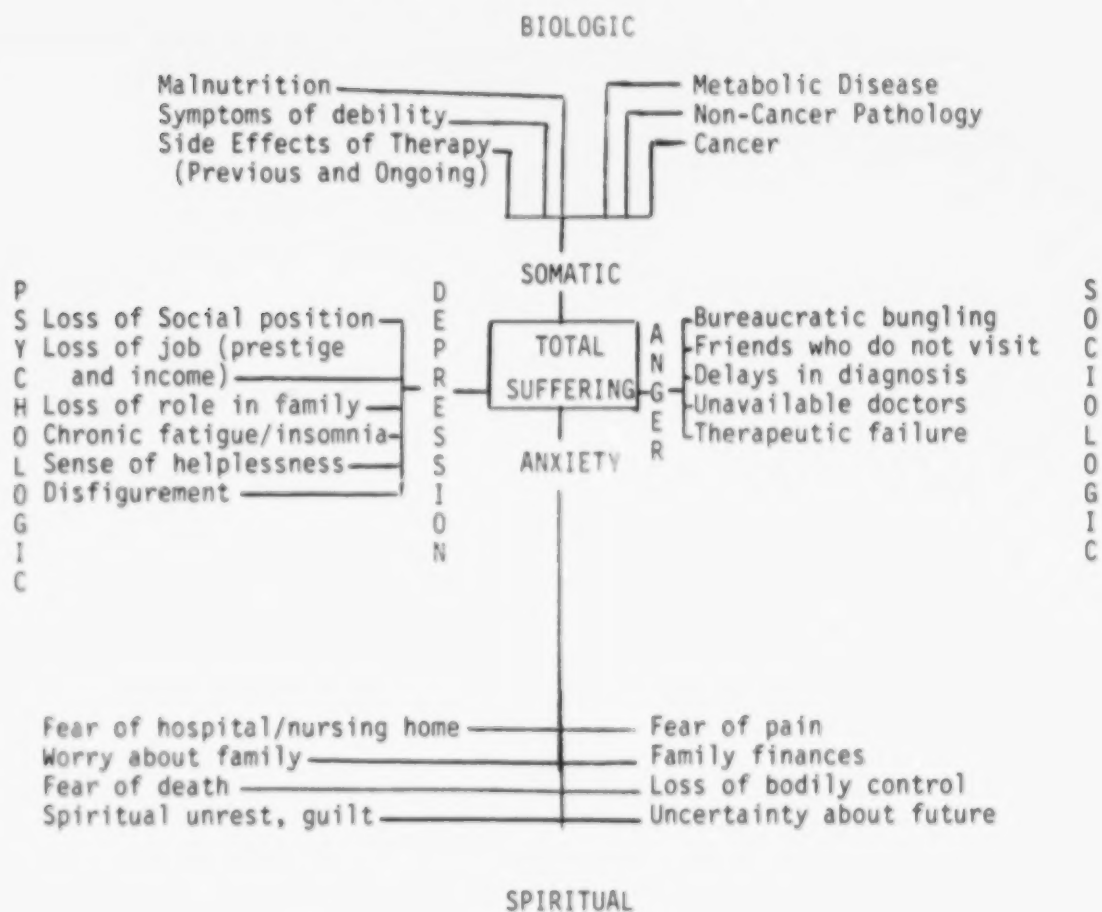
3. In order to provide comprehensive services, an interdisciplinary, professional approach is used integrating nursing care, physician and medical services, counseling, social work, pastoral care, home health aide, physical, occupational and speech therapy, and nutritional support services. One of the most unique parts of hospice care is the heavy reliance upon trained volunteer services frequently acting as the cohesive glue that holds together this comprehensive service package.

4. The ultimate goal of care is a "gentler dying" (Zimmerman, 1986). Thus, efforts are directed primarily towards palliation and not towards cure. Although easily stated, this leads to considerable difficulty and disagreement in any particular patient as to whether or not they with an established terminal diagnosis should continue in the curative phase of our medical system or whether they should enter the palliative, supportive phase of hospice. Obviously, this is such a critical decision that the patient and their family must participate in this often difficult decision. Hospice is committed to providing as much quality of care as possible during this journey towards death. Two other important elements include an emphasis on pain and other symptom control and the provision of bereavement support for surviving

family members for a period of time after the death of the patient.

5. Details of methods of symptom control are beyond the scope of this paper. Excellent summaries, however, have been published (Levy & Catalona, 1985). However, a few words about the major symptom, pain or suffering, are important. Figure 1 modified from Twycross and Lack (1983) depicts the various elements that contribute to the suffering experienced by patients/families with a terminal disease. This intertwining of the biological, sociological, psychological, and spiritual components of the human existence are in many ways the essence of the hospice philosophy which hopefully will increasingly become a part of the overall health care system in this country. Basic research in Montreal, London, and elsewhere has affirmed several basic principles essential to apposite pain control, without which the other psycho, social, and spiritual elements of suffering cannot be addressed. These principles have been derived from the recognition of why poor pain control in terminally ill patients is so common (Cancer pain, 1986). These include, lack of factual knowledge about pain control medications, and the inadequate application of existing knowledge in the control of pain. This includes the use of inadequate doses or oral narcotics, the scheduling of analgesics on a prn basis, failure to titrate the dose of that pain as you lead without somnolence and failure to use adjuvant and non-drug

Figure 1. (Modified from Twycross and Lack, 1983)



measures for pain control. Other elements that contribute to poor pain control are the inappropriate attitudes, fears, and behaviors, of the health care team themselves and patients, including belief that pain in cancer is inevitable and untreatable (in fact only about 67% of patients with terminal cancer actually experience pain) an irrational fear of addiction, tolerance and/or respiratory depression, and distrust in the patient's own assessment of their pain. Other contributing factors include lack of access to, or availability of, appropriate services because of geographic, cultural, linguistic, or financial barriers, lack of education of the caregivers themselves or the limited number of specialized areas for pain control and palliative care programs.

To capsulize the principles of appropriate pain control it is important to: (a) diagnose the cause of pain that is, is it a result of the cancer itself or the presence of bone, nerve or large organ involvement; is it associated with intracranial pressure or muscle spasm of either smooth or striated muscle or is it some combination of the above; (b) administer analgesics at regular intervals whether the patient is having pain or not; (c) Titrate to achieve the most effective, lowest possible, dose which is essential in each patient; and (d) use additional adjunctive treatments such as palliative radiation therapy, non-steroidal anti-inflammatory drugs, corticosteroid medication, psychotropic

agents, and/or muscle relaxants. This pharmacological approach to pain control must go hand in hand with continued evaluation of the emotional, social, financial and spiritual issues facing the patient and their family, all with the objective of maintaining complete pain control, 24 hours a day through the use of simple, oral medications (or on occasion continuous subcutaneous administration of medication as necessary) keeping the patient as alert as possible. In both England and this country this creates a much better appreciation of the need for the control of pain and suffering.

Another seminal part of hospice care is the provision of palliative symptom control in various settings. It is our experience that most patients and their families would much prefer to be at home for as much of the terminal illness as possible and the Federal support of hospice programs (see later) is based largely on this principle. When it is not possible to control symptoms at home and the patient must be in an inpatient setting, such a setting should be homelike, surrounded with familiar things and as free from institutional restrictions as possible. St. Anthony's hospice inpatient center, designed for hospice care provides for proper lighting, ventilation, temperature and noise control and access to the handicapped. All patient rooms are homelike and each open to a garden courtyard. Other special areas

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include a chapel, living and dining rooms, kitchens, a den, sitting areas, hairdressing and laundry room facilities. All rooms are furnished for patient comfort and privacy. The hospice is decorated with live plants and flowers. Colorful afghans thrown over arms of rockers, television, radio and cassette recorders playing while families are encouraged to decorate rooms with family photographs, knickknacks, and memorabilia.

At the same time the hospice center must be able to provide reasonably technical procedures when these are deemed necessary. In this country, in contrast to St. Christopher's, where no emergency surgical procedures, use of respirators, or intravenous therapy are performed, more aggressive palliative care is beginning to emerge in several hospices. At St. Christopher's, blood pressures, temperatures, pulse and respiration rates are not monitored and there are no eleventh hour efforts to prolong the dying process. The watch word continues to be comfort, caring, and hope. While there are also the guiding principles increasing the use of subcutaneous fluids and subcutaneous administration of medications for patients who have trouble swallowing, appears to be a more aggressive form of symptom control.

Another element recognizes the patient and family as a unit of care both during the terminal illness and for the surviving family members after the death of a patient. To some extent, of course,

this should be true of all medical care but certainly is seminal in the care of the terminally ill.

As one comes to know family members it is remarkable how much unfinished business is uncovered. Financial difficulties, unrequited loves, decade long animosities, failure of interactions between members of the family, religious differences, satanic influences, are but a few of the issues that come to light as one deals with the families of dying persons. It is also remarkable how much of this can be resolved prior to a person's death and how the death process indeed can be a learning experience for every person involved and a growth experience for all.

The final, and in many ways, most unique part of hospice care is the follow-up bereavement services. In our program, anticipatory bereavement concerns are identified before the death of the patient and open verbalization and discussion of such concerns of both patient and family are encouraged at the time of death, if spiritual beliefs have been important to the family and/or patient (I have seen only one person out of about 1,200 patients where this was not the case) then the physician and nurses gather at the dead person's bedside and prayers are said in keeping with the spiritual beliefs of the family. High risk grief concerns are identified by any and all staff members at that time and our bereavement coordinator begins a process of continued interaction

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over time with the surviving family members who are available. The goal is that by the end of one year's grieving the family will have worked through the four steps identified by Worden (1985) as essential in the resolution of loss. These are: (a) The need to accept the reality of loss; (b) experience the pain of loss whether it be physical, emotional or mental; (c) adjust to an environment where the deceased is missing; and finally, (d) withdraw emotionally and invest energies in others and in life. Although simply stated, this is no small order. Much energy is expended through individual counseling and group activities for family members during the bereavement process. One can then summarize the critical elements of hospice care as follows:

1. Medically directed, compassionate care, recognizing
2. The family as a unit of care, utilizing
3. A multidisciplinary approach working as a team, where
4. The patient is primarily cared for at home with a home-oriented approach, using,
5. Trained volunteers, in all facets of the program, utilizing
6. A holistic philosophy, with an
7. Anticipatory and follow-up bereavement component, assuring that
8. All services are available 24 hours a day, and with the

9. Unifying element of palliative care with emphasis on the control and elimination of pain and suffering.

There are many challenges, of course, to this kind of care. It is hard work on staff as one gives of themselves to patients and families. It is thus essential that staff members be supported in their own loss and bereavement when a patient dies. We have used the beautiful chapel in our building as a centerpiece for memorial services for families and patients and indeed, even for services directed towards our staff to help them deal with their grief particularly with an increasing load of patients dying of Acquired Immune Deficiency Syndrome (AIDS). The AIDS patient, of course, is commonly in the same age group as our nursing staff and identification is common; it is perhaps impossible to avoid this loss, but this topic is addressed later. On the other hand, caring for the terminally ill and their families is one of the most rewarding experiences available in the health care system. Hospice care is intensive care with high touch, constant comfort, with patience and much listening. It must be carried out by clinically competent, scientifically able, compassionate, caring, concerned, spiritual problem solvers; compassion with the bestowing of the human touch, gentleness through quiet concerned caring, equanimity with a balanced disposition and evenness of mind, temperance through the sound pursuit of every sort of good, communication

through effective listening and sharing with openness and honesty through an irreproachable manner of dignity and cheerfulness. If one is to follow Peabody's aphorism ("care of the patient is caring for the patient"), hospice is the best setting in which this can be accomplished.

With this approach it is incredible how much happiness, even how much gaiety can be fostered among families. Families will often tell us how much they actually enjoyed this final journey and how much support they gave and received from the patient even though hope for recovery was gone. To accomplish this quality of life, patients and families must be encouraged to be as busy as possible with enjoyable activities, reflecting on happy memories such as holidays or family celebrations or past achievements; browsing through a family photograph album, meditating on religious or spiritual thoughts. I believe that the consolation and comfort of the patient depends largely on their spiritual resolve.

Perhaps to best understand the hospice approach to care, it may be helpful to describe what hospice is not, Jacobson, G.A. (1984) has stated it this way:

1. A hospice is not a building or a place. It is a program of total care designed to meet the special needs of the dying and those close to them in whatever setting is appropriate.

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2. A hospice is not designed to provide the same kind of care delivered in the acute care system. Hospice goals are short term palliation and relief of symptoms.
3. A hospice is not a new or magical panacea for managing the problems of late stage illness.
4. A hospice is not custodial care. It requires highly skilled professionals who provide treatment for the control of symptoms.
5. A hospice is not against therapy. It endorses treatment according to the patient's needs.
6. A hospice is not a fragmentation or duplication of the existing health care system. Rather, hospice improves coordination and continuity of patient care.
7. A hospice is an option that patients may choose depending on their lifestyles, beliefs, and wishes.
8. A hospice is not for every health care worker, paid or volunteer. Hospice work is demanding. That's why a hospice should provide a supportive atmosphere where the workers also take care of themselves.

Political and Societal Support for Hospice

On a recent trip to Great Britain where I had the opportunity to visit several hospices in Ireland, Scotland, and England, I inquired about the political and financial support for hospice

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care. It was clear that the public sector (National Health Service) provided about 40% of the cost of hospice care through direct grants. In return they asked only that care be provided in an exemplary manner without excessive charting or recordkeeping. The remaining 60% of the cost came from either donations, legacies, and a small amount of private pay (in total about 30%) or from active fund raising activities in the community (about 30%). In each of the communities I visited, hospice had become part of the social fabric, was widely accepted and enthusiastically supported by individuals in the community.

The rapid growth of hospice in this country clearly indicates that this medical, psychosocial and spiritual approach to holistic care is timely. In order to stabilize the costs of such care the United States Congress, after several studies indicated that care of terminal illness could be more efficiently and economically provided through hospice auspices, enacted legislation in 1982 whereby Medicare in 1983 began providing reimbursement under Part A (inpatient hospital care) for hospice services provided to medicare beneficiaries in lieu of other medicare benefits. The amount the hospice might be reimbursed per patient was capped at \$6,500. This has been recently changed to a cap of \$7,500. In 1986 the Hospice Medicare legislation was reconsidered by the Congress and made a permanent part of Medicare benefits available to senior citizens in

this country. This is a very complex piece of legislation which requires at least four criteria be met to be eligible for Hospice Medicare services. These include:

1. The patient is eligible for Medicare Part A hospital insurance.
2. The patient's physician and the hospice medical director must certify that the patient has a terminal illness.
3. The patient signs a statement choosing hospice care instead of the standard medicare benefits for the terminal illness.
4. The patient must receive care from a medicare certified hospice program.

The regulatory requirements are substantive and at times excessive. Basically, each patient is entitled to 210 days of hospice medicare benefits divided into three periods of time, 90 days, 90 days, and 30 days. At the end of each period the patient is reassessed by the patient's physician and the hospital medical director to determine whether or not a terminal state still exists before the patient can be resigned into the program for a second or third benefit period. Thus, a terminal illness is defined thru regulations as one, from which the patient will not survive more than 210 days. As Balfour Mount has pointed out, this is clearly going to jeopardize hospice care availability and indeed that has

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been our experience. The reason for this is very simple. Patients do not consider hospice as a type of care which will improve their quality of life until virtually all other sources of support have been exhausted emotionally, financially, and medically. Hence, many patients enter the hospice program in the last few hours or days of their lives thus diminishing hospice care which I believe was not the intent of Congress when the legislation supporting hospice medicare was developed. It is essential that this limit on patient care days be legislatively eliminated. Those hospices, as well as St. Anthony's, who have extended the period of time to twelve months for patients with AIDS, clearly, will be providing care to some patients with virtually no reimbursement. This is another issue that must be addressed.

Legislation also clearly indicates, and appropriately so, that hospice care should be primarily provided at home and to insure this each year each hospice medicare program is audited to determine whether or not, in the aggregate, 80% of patient days were provided in a home setting and that no more than 20% of patient days were in an inpatient setting. In most hospice programs this restriction is not difficult to meet.

However, a major issue jeopardizing the financial stability and even future of many hospice programs has emerged. The Health Care and Financing Administration (HCFA) through it's regulatory

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authority contracts with various third party intermediaries for the reimbursement of hospice services. Each hospice in this country may experience variable interpretations depending upon who the third party intermediary is, in regard to reimbursement for the four levels of hospice service which are provided by legislation. These include home care services, continuous nursing care at home, inpatient acute care (not defined), and respite care. This latter care is clearly defined as inpatient care to allow the family who has been caring for the patient at home, rest and recuperation during a five day respite period. Respite care, by regulation, can only be provided "on an occasional basis" not further defined. It has been many hospices' experience that continuous nursing care is rarely reimbursed and has become a source of friction between hospices and third party intermediaries. In our own experience we have determined that continuous nursing care is more economically provided (hence saving tax dollars) within our inpatient free-standing setting. However, virtually all of our inpatient admissions for pain and symptom control have been denied by the third party payers. We are at a great disadvantage because the criteria covering acute inpatient care (and remember Congress has indicated that up to 20% of such aggregate care is permissible for pain control or management of acute and severe clinical problems) is not further defined. It is critically important and essential

that HCFA, third party payers and hospice providers, mutually agree upon the criteria for acute inpatient care for pain and symptom control.

Hospice principles as delineated by Dame Cicely Saunders and many others have emphasized the use of oral medications if at all possible and as noted before St. Christopher's Hospice completely avoids the use of intravenous medications and fluids, in order to provide humane, comfortable, and compassionate control of disconcerting pain and other symptoms. Yet, if we use this truly hospice approach in an inpatient setting for symptom control (which in my mind is all quite legitimate) we stand the substantive likelihood that payment for such inpatient treatment will be denied; and denied long after the cost for providing such has been incurred! This lack of understanding on the part of third party payers and the regulatory interpretation of the intent of Congress places many hospices in financial jeopardy, particularly those with an inpatient component. Experienced hospice workers know that inpatient care is frequently necessary for short periods of time in the course of a terminal illness. Yet the very existence of hospices are being threatened because of the failure to understand this basic hospice principle by the federal regulators and third party payers. Further, documentation of every single intervention with the patient and family is necessary, and every word written on all charts is reviewed at least by some third party payers! This

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is not true throughout all of the United States putting some hospices at serious disadvantage and discrimination in terms of the review process of their care. This also needs to be addressed in order to fairly apportion federal dollars to provide, as required by law, hospice benefits to medicare beneficiaries.

This is in sharp contrast to what is required of English hospices. Moneys are provided based upon numbers of patients cared for. Documentation is brief, to the point and not burdensome so that hospice workers can spend their time with patients as is appropriate and in keeping with high quality hospice care.

The private insurance companies, and in some states Medicaid, have followed Medicare's lead in the provision of hospice services. Not all states including our own offer hospice care to Medicaid patients; and not all insurance companies offer hospice services either at home or on an inpatient basis. This is, however, improving and more and more private insurance companies have recognized the cost efficiency of providing care for terminally ill patients utilizing the hospice system of care. However, as fast as new insurance companies offer these benefits, the companies who have offered it for some time are adopting the restrictive regulations often imposed by the third party payers and a federal regulation.

All of this comes at a time when the federal governments of

both Canada and the United States at an international meeting in Ottawa, Canada in April 1987, and supported by an official statement of the National Hospice Organization, in the fall of 1987, that hospices must, if they are truly hospice careers, assume a greater responsibility in the care of those patients dying with AIDS. On one hand federal regulations are vigorously and rigorously decreasing reimbursement for services already provided, while at the same time the federal authorities are asking hospices to expand their care to those who justifiably need such care, but for whom rarely are funds available. This clearly is a problem of national concern and national scope and must be addressed immediately before many hospices are forced to reduce their services for lack of patient care income.

Many hospices like those in Great Britain rely upon legacies, donations and fund raising events to maintain their fiscal viability. This is all well and good for it involves the community in their own hospice activities. However, if the burden of AIDS care (discussed later) develops, as is envisioned some other means, either at the local, state or federal level of financing hospice services for this unfortunate group of patients must be developed and developed quickly.

Special Elements of the Hospice Team

The team of hospice caregivers are indeed special. Although

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coming from all walks of life and experience they tend to have a very individualistic yet a concern for interplay which when properly managed is a potent force in the provision of high quality care. Seminal to the hospice concept is the so called interdisciplinary group (IDG) or team usually consisting of the director of the hospice program, the hospice medical director, director of nursing or patient care coordinator (PCC), staff nurses, counseling and bereavement coordinators, social services pastoral ministry persons, volunteers and educational coordinators. This interdisciplinary group establishes a plan of care for the patient and family and supervises the services provided. They meet on a regular basis to update and review the plan of care and in a participatory approach help in the establishment of policies governing the day to day work of the hospice program. They are also responsible for assuring the exhaustive documentation in order to pass muster third party payer requirements. A properly functioning interdisciplinary group facilitates the exchange of information among caregivers, families and patients and remains committed to the provision of the highest quality of care possible. Let us look closer at a few of these IDG members.

The medical director is an integral member of the interdisciplinary group and responsible for the overall care of all

hospice patients. He/she reviews patient medical diagnoses, certifies and recertifies patient eligibility for hospice care. The director is expected to be a medical resource to the hospice team, to consult with attending physicians regarding pain and symptom management and be a backup when the patient's own attending physician is not available. In addition, the medical director is expected to provide educational support to the nursing staff and other members of the team and to serve as a liaison with attending physicians, the community and referring hospital.

The nursing director (PCC) implements the nursing plan of care both at home and in the inpatient unit working with registered nurses. Counseling services include bereavement counseling, spiritual counseling, dietary counseling, psychological counseling and others as needed. Bereavement follow-up may be in a group setting or on an individual basis for patients and families. Spiritual counseling, as mentioned, is an integral part of the program and should be in keeping with the patient/family's spiritual beliefs. At times this is best accomplished by using the patient's own pastoral support system or trained volunteers. Social services include psychosocial assessment, help with the financial strains that most families have experienced, assistance in the writing of wills, funeral arrangements and other specific needs to ease the mind of the patient and their family during the terminal phase of

their illness. Bereavement services require follow-up for about one year following the death of a patient. Follow up is made through phone contacts, personal individual counseling or group therapy. At times pathological grief is recognized and additional professional help is then sought. Volunteer services remain an integral part of the program by providing family relief, patient companionship, transportation, household chores for the home care patients and non-professional patient care services on the inpatient unit including visiting with families, making beds, serving trays, and helping with daily living tasks. Trained volunteers also can contribute to the administrative office activities, educational activities, if they are part of the program, pastoral care and bereavement services. All other standard hospital support services including nutrition, physical/occupational/speech therapy are provided both at home and in the inpatient setting.

Hospice and the AIDS Patient

As the clinical spectrum of individuals infected with the HIV virus has evolved it is clear that many patients will die of opportunistic infections while experiencing a slow but relentless neurological deterioration termed HIV dementia. It also appears that the use of the drug Zidovudine (known as Retrovir) although extending the dying process, does so while providing a better

quality of life and hence fits general hospice philosophy. The financial, emotional, and medical impact of hospice care for such patients has not yet been fully calculated. Nevertheless, as noted above, the federal governments of both Canada and the United States and the National Hospice Organization have in essence said hospices must be involved in the care of AIDS patients. Fortunately, most hospice staffs enthusiastically agree with this and most are prepared to continue to provide care for AIDS patients as long as they can maintain financially viable. However, with each AIDS patient financial stability is increasingly compromised.

The problems faced by AIDS patients are virtually the same as other terminally ill patients but with a greater intensity. Patients experience the same symptoms of pain, respiratory distress, nausea, and vomiting, frequent and at times constant diarrhea, urinary retention, fecal incontinence, fever, disabling night sweats, metabolic disturbances, edema, anorexia, insomnia, mucocutaneous infections, major neuropsychiatric disorders as well as the myriad opportunistic infections beyond the scope of discussion in this paper. Hospices, however, are skilled at dealing with these symptoms and through minor redirection can successfully provide comfort to the dying AIDS patient. More difficult, however, is the provision of treatment for the opportunistic infections which may require aggressive intervention

frequently on an inpatient basis until such time as the patient can be stabilized to return home with support provided there by the hospice team. This will require a greater awareness of and ability to provide such care in hospice inpatient units.

As the patient recovers from an opportunistic infection there are additional and major stresses both for the caregiver and the patient which seem to be more intense than those with more traditional terminal illnesses. This includes the age of the patient, being very close to that of the caregiver, their lifestyle, religious and social issues relative to the gay lifestyle and the manner in which the disease is primarily transmitted through homosexual, bisexual activity, or intravenous drug use. This has often led to isolation of the patient from both the traditional health care system and their families, and must be addressed by the hospice system. In addition, the stress of diagnosis and the acceptance of the lethal outcome once the diagnosis of AIDS is reached has a major impact on a young person. Hence, the frequency of suicidal ideation is high and a recent paper suggests that suicide is 66 times as frequent in AIDS patients as in the general population (Marzuk et al., 1988). About 50% of patients do not wish to forego life prolonging treatment including respirator and extraordinary life support systems leading to ethical issues of moment (Steinbrook, Moulton, Saika, Hollander,

& Valherding, 1986).

The presence of Kaposi's Sarcoma and its disfigurement, the marked debilitation from the AIDS dementia, the weakening effects of intermittent pulmonary, mucocutaneous or neurologic infections all generate substantive fears which need to be addressed and require extended periods of hospice staff intervention. Fear of social abandonment, guilt over past sexual behaviors, discrimination in the work place or by insurance companies add to the level of stress experienced by the AIDS patient and are not commonly seen in other persons with terminal illness.

Many hospice programs operate in smaller communities. Thus, when a patient with AIDS return to die in their childhood home, as is increasingly the case, there is frequently only a limitation and support networks in these smaller communities. This is probably contributory to frequency of suicidal ideation. Many patients are forced to live alone or with lovers who may become non-supportive so that group home arrangements are increasingly being utilized. There but probably can only be provided in larger communities again making care in a smaller community extremely difficult.

Spiritual issues remain a concern of great moments and as noted previously this is not as often the case in patients dying with other terminal diseases. It is therefore important for the hospice team to deal openly and in depth with the spiritual issues faced by

those dying from AIDS. All of these issues together with the relentless dementia increase the patient's vulnerability to psychological dysfunction often beyond the experience and ability of the hospice team and requiring intervention by psychiatrists. The hospice philosophy of insuring the patient's control of the situation for as long as possible is frequently lost early in the patient with neurological disarray and this loss and lack of control of one's destiny adds to the psychological dysfunction.

The emotional problems experienced by families and by the hospice staff at times are of such great moments that it is essential that the hospice administration not only recognize these issues but address them head on. We recommend that nursing staff who are dealing with AIDS patients, be afforded the opportunity of participating in small groups with other more experienced nurses in order to verbalize fears and concerns and resolve these openly and honestly. We also feel that family members of caregivers need the same opportunity to express their concerns and deal with those issues that might interfere with family lives of caregivers.

More and more hospitals, including our own hospice, are moving to "universal precautions" (where all patients are considered potentially infectious) and extensive education is essential to protect both volunteers and other members of the hospice health care team so they may continue to provide compassionate care

without undue concern.

"The role of volunteers in the care of AIDS patients poses additional problems. Many volunteers when they entered the training programs for hospice care did so without a knowledge about, or commitment to, the care of AIDS patients. Many volunteers have indicated that if they will be expected to provide such they might prefer to withdraw from the hospice program entirely. As previously mentioned, volunteers are an essential "glue" of hospice care. To address this issue we have moved into our local gay community through the Metropolitan Community Church and provided a complete volunteer training program for about 30 volunteers who felt comfortable working with patients dying with AIDS.

Special emphasis on issues relating to AIDS and AIDS related conditions were interwoven into this special volunteer training program. This has provided a ready and well-trained group of volunteers alleviating concerns in other volunteers yet allowing us to provide comprehensive hospice care to these patients both at home and in the inpatient setting.

How many patients are already infected with the AIDS virus in this country is unknown and estimates vary from one to two million. It is likely that most of these infected persons will at some time in their life become seriously ill with AIDS related

conditions or AIDS itself, and hence require terminal care and support. This is a staggering expectation and if hospices are provided the necessary financial support they can and will, I'm sure, rise to meet this task with care and compassion.

Communication of the Dying

Not infrequently, during the last 24 hours of life, a stage of extreme agitation occurs, often mistakenly thought to be pain, in our judgement more likely a final struggle with spiritual issues, which once resolved, allows the patient to die peacefully. It is at this stage that the patient feels the need to have someone with them at all times and indeed this should be of paramount importance in the plan of care.

Although there are physical signs of approaching death, perhaps of more importance is the special communication of the dying. Common themes appear, particularly in those patients who are dying slowly in the last hours, days or weeks of life. In the past, these common themes were thought to be result of confusion "her mind is wandering" but in fact, it is we the caregivers that are confused, rather than the patient. The patient is trying to communicate with us in their own special way. The recurrent themes seen in patient after patient include the description of a place, talking to or being in the presence of someone who is not alive, a clear cut knowledge of when death will occur, often to the hour,

the choosing of the time of death, the apparent need for reconciliation with loved ones, and the recurrent expression of the need for preparation for travel or change (National Hospice, 1986).

Patients calmly speak about being in another place, sometimes days or weeks before death occurs. It is usually a very lovely place, and a patient often sees loved ones who preceeded them in death or may sense a loving, caring presence in their room, often described as an angel or a person from their past, now dead or just a presence. Patients have an uncanny ability at times to know when death will occur, even several weeks in advance. Kelly and Pflaum cited in Kuhler-Ross (1979) believe this is an attempt of the patient to tell us about what is happening during their dying process. We must listen carefully and help the patient explore what is happening, rather than to brush this off as a "confused" patient. In fact our nursing staff are not allowed to use the term confused unless they are describing their own personal situation!

It is most important to assure families that their loved ones are not experiencing hallucinations caused by drugs or by other psychological, mental, or cerebral deterioration. It is important for all to understand that the dying do indeed have glimpses of another world and those loved ones who have preceded them.

Patients often seem to sense the need to have their death a peaceful event in order to make it as comfortable as possible for

their family who are anxiously at their bedside. (Choosing the time of death or holding on until a particular loved person has arrived, in common). We also see death timed for when a loved person is not there. Again, we believe this is out of concern for the loved person's grief. It is important to deal in this instance with the natural first reaction of the family member or staff who expresses guilt about not being there. It is important to reassure the loved ones that the patient chose to die alone as a gift to spare those important persons in their lives.

The healing of a relationship or reconciliation is often missed unless one is acutely listening to the patients "confused" talk. What the patient needs is to have permission to die and to know that the ones left behind will be all right. It is also critically important for many patients to know that they are loved by God. For those who wish special symbolic events of religious importance these must be provided including baptism (we have done this often in our whirlpool bath), the reading of the Hail Mary's (we have seen patients die peacefully when a certain part of this litany is reached), or the desire for religious music or other elements. It is important for the family to reassure the patient that they understand the desire to stay alive, but they the family, are ready, although sad, to let their loved one go with the assurance that they will indeed be all right. This final permission is often

all the patient needs to let go and die peacefully. It is amazing to us that these events that we have experienced in our Hospice are so similar to those experienced in Hospices around the world.

Final Thoughts

I am often told by my physician colleagues that they could not do the work that I am privileged to do. They miss the point, however, of the rewards therein. The opportunity to be with a diverse group of spiritual people committed to helping the dying and their family members to grow through this process is unequalled in the health care professional field. The provision of unconditional, non-judgemental love is not easy. But is an essential characteristic of the hospice caregiver as hospice becomes a greater influence in the entire health care system in this country. It is my fond hopes that this precious element will invigorate and infect all health care workers.

There are many things worse than death as Albert Sweitzer (Cancer Pain, 1986) said: "We all must die. But if I can save him from days of torture, that is what I feel is my great and ever new privilege. Pain is a more terrible lord of mankind than even death himself." And Kubler Ross says (1979) "when we have done all the work we were sent to earth to do, we are allowed to shed our body - which imprisons our soul like a cocoon encloses the future butterfly - and when the time is right we can let go of it and we

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will be free of pain, free of fears and worries, free as a very beautiful butterfly returning home to God."

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Advanced Statistical Applications Using MANOVA

Golam Mannan
Indiana University-Purdue University
at Indianapolis

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Multivariate Statistics are a set of increasingly popular statistical techniques that are useful for analyzing complicated data. (Tabachnick & Fidell, 1983) They provide a system for analysis under conditions in which there may be several independent variables and more than one dependent variables all correlated with one another to varying degrees. Both because of the difficulty of addressing many modern research questions with restrictions imposed by univariate analyses and because of the availability of computing facilities with canned software, multivariate statistics are becoming widely used in various research endeavors. (Tucker & Chase 1980; Levine, 1977)

Before discussing multivariate statistics, one should first start with univariate analysis. In a univariate analysis there is only one dependent variable. There may be more than one independent variable, but there is only one dependent variable. A simple regression analysis is an example of univariate statistics. In this case we are predicting the value of one dependent variable from one independent variable. A case in point is predicting student achievement (y) from student IQ (x). Analysis of variance (ANOVA) is another example of univariate analysis. In ANOVA, there may be more than one factor but there is still one dependent variable. Suppose we want to find out if there is a significant difference between the male and the female

professionals in terms of stress, we have one dependent variable; stress. We have one independent variable or in this case factor; sex. So, this is a univariate statistic. Now let's add one more

Figure 1 here

factor. We now want to see the impact of race and sex on stress. We have two factors and still one dependent variable. We are still talking about univariate statistics.

Figure 2 here

Let's go back to the relationship between sex and stress, where stress is our dependent variable. Suppose the researcher finds out that there is no single global measure of stress; that is stress is not a unitary concept. Instead the researcher identifies three or four separate measures of different facets of stress. Each one of these measures can then be classified as a dependent variable. Assume that these variables are anxiety, elevated blood pressure and periodic depression. Now we have three dependent variables and one

factor (IV). This research calls for multivariate statistics. The specific technique within the range of multivariate statistics that is useful here is called multivariate analysis of variance (MANOVA). Other common multivariate statistics are canonical correlation and multiple discriminant analysis.

In a MANOVA then, there can be one or more factors but essentially more than one dependent variable. Incidentally in any analysis of variance technique (ANOVA or MANOVA), the factors are discrete and not continuous variables. As mentioned earlier we can add more than one factor in our design. Suppose we have both race

Figure 3 here

and sex as factors with the three dependent variables. This is an example of factorial MANOVA.

At this point a very legitimate question may be asked. Since there are three dependent variables in our example, couldn't it have been easier and less complex to run three separate ANOVA taking one dependent variable at a time. The answer is yes it would have been easier and less complex. But the advantage of MANOVA over a series of ANOVAs, one for each dependent variable, is a protection against Type 1 error. Type 1 error occurs as the null hypothesis is rejected when it is true. As one runs too many tests of the same kind, the

probability of rejecting null hypothesis by chance increases, and thus the possibility of type 1 error increases.

Another advantage of MANOVA is that under certain conditions, it may reveal differences not shown in separate ANOVAs.

The purpose of ANOVA is to test whether mean differences among groups are likely to have occurred by chance. That is, do changes in the independent variables (factors) produce reliable changes in the dependent variable means? In MANOVA, the question is whether the independent variables (factors) significantly affect an optimal linear combination of the dependent variable means. The statement above can be interpreted as follows:

In MANOVA a new dependent variable is formed, based on the best linear combination of all dependent variables. An ANOVA is then performed on the newly created dependent variable.

If the MANOVA is found to be significant then the researcher could raise the following questions: Are all the dependent variable means significantly different from one another or are there some dependent variable means which are significant and others which are not? Going back to our stress example earlier, assume that the two sexes are found to be significantly different in a MANOVA test where the dependent variables are anxiety, elevated blood pressure and periodic depression. Recall that in a MANOVA these three dependent variables are linearly combined to form a new dependent variable. The researcher's question now is -- are all three of these dependent

variables significant if they are considered separately or may be two of them are significant and one is not. Now that MANOVA is significant, the research can perform separate univariate ANOVAs for each dependent variable. (Hummel & Sligo, 1971)

Some Issues and Limitations of MANOVA

MANOVA is a complex statistical process and the results can often be ambiguous. So, the researcher should try to avoid MANOVA when possible. One way to avoid MANOVA is to look at the dependent variables very carefully. If the dependent variables are highly correlated (i.e. basically measuring the same attribute) could some of them be dropped? Is it possible to combine the dependent variables so that there be one global dependent variable? If these options are not viable, then the researcher should consider MANOVA.

There are some other issues of statistical significance as well.

a) Sample size: In MANOVA it is important to have more cases than dependent variables in each cell. If this is not so, the power of the analysis may be lowered due to reduced degrees of freedom for error. One likely outcome of reduced power is a nonsignificant multivariate F, but one or more significant F's in ANOVA. A situation very tough to explain.

Outliers: One of the more serious limitations of MANOVA is its sensitivity to outliers. Inclusion of an outlier in MANOVA can produce either a Type I or a Type II error with no clue in the analysis as to which is occurring. So the researcher should test for outliers along with the MANOVA test (Frane, 1977). Almost all major

canned programs have options for testing for the outliers.

Homogeneity of Variance - Covariance Matrices: One way to assure the homogeneity of variance - covariance matrices is to have equal sample sizes.

Statistics for MANOVA: A number of test statistics have been formulated for determining whether significant differences exist among the various levels of a factor in a MANOVA procedure.

Recall the univariate statistics situation where t statistic is used. The researcher in this case has two levels (groups). In a similar situation in MANOVA (two levels but more than one dependent variable) two popular statistics are used -- Hotelling's T^2 statistic, which is a generalization of student's t static to more than one dependent variable and the Mahalanobis' D^2 statistic. In MANOVA situations where more than two levels are involved, a variety of test statistics are used -- most commonly, Wilk's Lambda, Hotelling - Lawley Trace, (Rulon & Brooks, 1968) and Roy's largest root statistic. (Roy, 1957, Heck, 1960)

All of these test statistics are based on matrix algebra techniques and consequently highly theoretical in nature. But fortunately common popular computer software packages (SPSS, SPSSX, SAS, BMDP) are always at hand to perform the required calculations for the researcher.

An overall test of significance in MANOVA leads to the rejection of the null hypothesis that the linear combination of the various dependent variables (called the mean vectors) of the groups are

equal. When more than two groups are involved, it is necessary to determine which pairs or combinations of groups differ significantly from each other. In the univariate analysis this is usually accomplished by performing post hoc multiple comparison of means. Likewise in MANOVA, methods of multiple comparison of means are available. (Bock, 1975; Morrison, 1976)

In univariate analysis a statistically significant comparison suggests that the groups being compared differ significantly on the dependent variable. But when a significant comparison is obtained in MANOVA, it is not always clear which of the multiple dependent variables contribute mostly to the significant difference between the groups that are being compared. (Wilkinson, 1975) There are several methods available to identify the significance of the dependent variables. One can perform discriminant analysis or simultaneous confidence intervals.

One popular method is that when an overall statistically significant MANOVA result is found, it could be followed by simple and separate ANOVA for each of the dependent variables. But if there is high intercorrelation among the dependent variables, a true picture may not be available. Moreover, it is possible that no significant difference will be detected when each dependent variable is analyzed separately while the MANOVA is still found to be significant.

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S E X	M	DV
	F	DV

Figure 1. ANOVA with one factor

		RACE	
		B	W
S E X	M	DV	DV
	F	DV	DV

Figure 2. ANOVA with two factors

		Dependent Variables		
S E X	M	DV ANXIETY	DV BLOOD PRESSURE	DV DEPRESSION
	F	DV ANXIETY	DV BLOOD PRESSURE	DV DEPRESSION

Figure 3. MANOVA with one factor and three dependent variables

A COMPUTERIZED CURRICULUM PLANNING SYSTEM
FOR HEALTH OCCUPATIONS EDUCATION

Beverly Richards, Associate Professor of Education, Division of Counseling and Educational Psychology and Career Studies, The Pennsylvania State University, University Park, PA 16802.

Barbara Wade, Assistant Professor of Agriculture, Extension Education, The Pennsylvania State University, University Park, PA 16802.

Janet Barbour, Health Assistant Teacher, Williamsport Area Community College, Williamsport, PA 17701.

Connie Peacock, Health Assisting Instructor, Franklin County AVTS, Chambersburg, PA 17201.

Cindy Clites, Health Assisting Instructor, Bedford-Everett AVTS, Everett, PA 15537.

Karen Riley, Dental Assisting Instructor, Altoona AVTS, Altoona, PA 16602.

Brenda Webster-Houck, Health Assisting Instructor, Bradford County AVTS, Towanda, PA 18848.

Karen Shriver, Dental Assisting Instructor, SUN AVTS, New Berlin, PA 18944.

Susan McCahan, Health Assisting Instructor, Loysburg, PA 16659.

Juliann Wanzie, Health Assisting Instructor, Seneca Highlands AVTS, Port Allegany, PA 16743.

Marie Moore, Health Assisting Instructor, Altoona AVTS, Altoona, PA 16602.

Cynthia Wittman, Dental Assisting Instructor, Forbes Road East AVTS, Monroeville, PA 15146.

Sonya Meyers, Dental Assisting Instructor, Centre County AVTS, Pleasant Gap, PA 16823.

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FOR HEALTH OCCUPATIONS EDUCATION

Beverly Richards, et al

Abstract: A Computerized Curriculum Planning System was used to develop competency databases for four programs in health occupations education: medical assisting, dental assisting, nursing assisting, and home health assisting. The system consists of three components: (a) a planning guide, (b) a computerized scheduling program, and (c) units of instruction. The planning guide contains a place to insert the following program planning components with examples of each item included in the guide: objectives, philosophy, needs assessments, evaluation criteria, community resources, advisory committee information, course outlines, and course schedules. The computer program consists of four diskettes which contain the master program, utilities, database, and a blank diskette for creating new databases. The units of instruction are plans which contain lists of competencies addressed in the unit, performance objectives, learning activities, resources, and evaluation methods. The basis of the system is a competency database determined from input by teachers and state technical committees. Competencies are divided into units with each unit assigned a specific time length and grade level.

¹Beverly Richards is Associate Professor of Education, Division of Counseling and Educational Psychology and Career Studies at Pennsylvania State University.

Introduction

Currently, health care is the second largest industry nationally. The growth of the health care industry requires knowledgeable and competent employees at all levels. The education and training of many of these employees are the responsibility of health occupations education, and area of vocational education. The task of preparing youth and adults for their roles in today's labor market has become increasingly complex due to changes in technology and research discoveries. Factors which influence emerging demands include a low mortality rate at birth and among infants; longer life-span; greater public awareness of preventive and therapeutic health measures, increased number and use of available medical insurance plans; federal legislation such as the diagnosis related grouping (DRGs) for payment of patient care and medicare and medicaid which subsidizes health care for specific subgroups; expanding medical knowledge; and the rapid increase of technical health care equipment (Richards, 1986).

Two forces at work are changing the delivery of health care. The first force is the technological advances such as computers and other electronic equipment used in heart surgery, renal dialysis, and organ transplants, which can be viewed only as extensions of the human skills of judgment and concern. The second force is social change. The demand for health care delivered equally to all segments of the population which is tempered with the concern for cost containment at a time when health care costs are spiraling upward.

Since 1917, federal legislation has supported public education as a means for preparing a skilled work force. As this mission continues, vocational educators seek better methods to educate, upgrade, and retrain

the nation's work force. The accelerated rate of change and technological discoveries in health care stress the need to revise curriculum in order to provide current and well educated health care providers.

Curriculum revision has been a long and laborious process for most teachers. Teachers often do not have the needed time to revise curriculum because their time and attention is taken up in the daily tasks required of teachers, e.g., helping students, developing schedules and lesson plans, addressing problems within the classroom, in addition to attending faculty and special committee meetings and trying to remain current and up-to-date in their health specialty skills.

One method of addressing curriculum development and revision is the Computerized Curriculum Planning System that has been developed by Dr. Williams, Professor of Agriculture and Extension Education at the Pennsylvania State University (Curtis, Williams, Sell, Wade, 1987). Standardized curricula have been developed for more than 30 areas of vocational education spanning everything from agriculture and auto mechanics to graphics and food preparation. This new computerized planning system allows educators to manipulate competency databases to reflect local needs. The system has three components: planning guide, computer program and units of instruction.

The planning guide helps the vocational teacher organize critical components of their programs by illustrating examples of program philosophy and goals, needs assessment, exemplary standards, advisory committees and program evaluation. The computer program allows educators to manipulate and modify large amounts of information with ease. It includes the capability of creating comprehensive competency databases by

program, generating schedules, balancing time time, allowing for easy revision and creating individualized educational plans. The computer program consists of four disks for either IBM or Apple computers. The program disk allows for the creation and manipulation of a competency database and construction of class schedules from the database. The data disk contains a list of all units of instruction together with time and grade allocations as well as a list of suggested schedules for each grade. In addition, there is a utility disk and a blank formatted data disk which allow for construction of new competency databases. The system allows flexibility for the teacher and advisory committee to change any or all of the databases or adapt it to local community needs. The units of instruction can be assessed through the PENpages computer network at The Pennsylvania State University. The units include performance objectives, learning activities, resources, and related academics for each competency and are developed by teachers with expertise in specific units.

Purpose

The purpose of this paper is to communicate and share with other health occupations teachers about the development of competency databases for four areas of health occupations education: dental assisting, medical assisting, nursing assisting and home health assisting. The competency databases were developed by the authors using a variety of resources from the State Departments of Education in Illinois and Indiana, V-Tecs Catalogs, and numerous health occupations texts.

Methodology

Originally three Central Pennsylvania vocational schools were involved in a pilot program of the Computerized Curriculum Planning System with

Dr. Williams and Dr. Wade from The Pennsylvania State University. Four health occupations education teachers were part of the pilot project. When difficulties arose in defining the competency databases for health occupations, seven other health occupations education teachers, the program specialist from the Pennsylvania Department of Education and the health occupations teacher educator from Penn State were invited to participate in the project. At a general meeting, the group defined four goals for the project: develop a comprehensive competency database for four areas of health occupations education, resolve differences and come to group consensus on the four databases, develop performance objectives, learning activities and resources for each competency and develop evaluation tools to measure mastery of each competency. The health occupations teachers were divided into four teams to address the four different occupations areas in relation to the four goals.

Results

These efforts have resulted in the formation of computerized databases for the four areas of health occupations. In March, the teachers will meet and come to consensus on the database competencies for the four areas. The health occupations teachers have agreed to a format for organizing and documenting units of instruction. The example on the following pages demonstrates the performance objectives, learning activities and resources for one competency. It is one of nine competencies identified in basic body structure and function.

Beginning in March, the teachers will begin to develop and share competency-based performance objectives, learning activities, resources and evaluation methods for each identified competency. The committee

members will review and validate units of instruction with their respective advisory committees and share final documentation on a computer system which allows health occupations education to be adapted for local needs.

EXAMPLE LESSON PLAN:

UNIT NUMBER: 100

UNIT TITLE: Identify basic body structure and function.

PROBLEM AREA: Describe structure and function of the circulatory system.

OBJECTIVES:

1. Label heart structure, explain the function of the cardiac cycle.
2. Differentiate between arteries, capillaries, and veins as to their location and function.
3. Recognize the differences between blood and lymph according to formation, distribution, and function.
4. Explain the significance of EKG testing.
5. Compare various cardiac and circulatory disorders as to their cause and nursing care involved.

LEARNING ACTIVITIES:

1. Identify the heart by labeling compartments, major arteries and veins, and valves. Diagram and explain the cardiac cycle (Objective 1; Resources 1, 2, 3, 4, 5, 6, 7).
2. Explain the function of arteries, capillaries, and veins and describe the location of major arteries and veins (Objective 2; Resources 1, 2, 3, 4, 5, 6, 7).
3. Develop a chart showing the differences between blood and lymph in regard to formation, distribution, and function (Objective 3; Resources 1, 2, 3, 4, 5, 6, 7).
4. Describe the function of EKG's and list several disorders in which this test might be useful (Objective 4; Resources 1, 2, 3, 4, 5).
5. Discuss the cause and nursing care required for various cardiac and circulatory disorders (Objective 5; Resources 1, 2, 3, 4, 5, 6, 7).

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The interaction among health occupations teachers has prompted enthusiasm as well as renewed commitment to the delivery of high quality health occupations education programming. The collaborative spirit among teachers, teacher educators, state staff, and administrators has been as example of the remarkable possibilities for excellence which exist when groups sharing common interests come together.

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PATIENTS' PSYCHOLOGICAL ADAPTATION
TO CHRONIC ILLNESS:
PRELIMINARY FINDINGS

KAREN E. GABLE, RDH, ED.D.
AND
PAMALA J. SUTER, RD

Health Occupations Education
School of Education
Indiana University

ES 3156-IUFUI
902 West New York Street
Indianapolis, IN 46223
9317) 274-6801

Patients' Psychological Adaptation
to Chronic Illness: Preliminary Findings

Karen E. Gadie

Abstract: Chronic illnesses are considered to be major obstacles in increasing the lifespans of many patients. Data related to incidence, prevalence, diagnosis and treatment of chronic illnesses are common but data related to the psychological adaptation of patients to chronic illnesses are not. It has been suggested that psychological adjustment may be similar to that experienced by persons suffering from grief, loss or acceptance of death. This study of over 200 patients investigated patient responses relative to the five stage Kubler-Ross model of grief acceptance and to adaptation to chronic pain as proposed by Strauss and Glaser. The findings indicate that patients do experience feelings of denial, anger, bargaining, depression and acceptance related to their illness. Elements of adaptation to chronic pain were identified. Recommendations are made for further analyses in order to identify characteristics of patients with specific chronic illnesses and to predict psychological adaptation if demographic and disease entity is known.

Chronic health problems are major obstacles in increasing the length and quality of the life span of persons in the United States. Changes in life expectancy have increased for all age groups-birth, at 20 years, at 40 years, and at 65. Females continue to have higher

life expectancy than males. Whites are favored in length of life span at birth (Hauck and Hoyer, 1982). If current demographic trends continue, by the year 2030 over 21% of the U.S. population will be 65 years and older (IUPUI, 1987).

The decline in the death rate (from 17 to 9/1000 per year) has largely been the result of a decrease in infectious diseases in infancy and childhood, improved sanitation, and the development of effective vaccines and mass immunizations (Anderson and Bauwens, 1981). While the mortality rate declined at a stunning rate, during the first seventy years of the century, the mortality rate from major chronic diseases such as heart disease, cancer, and stroke increased by more than 250% (Carnevali and Patrick, 1972). Obviously, chronic health problems extend across the life span. From infancy to old age, the challenge of staying healthy is a continuous one. Chronic health problems are the major obstacles to any significant gain in increasing the life span of persons in the United States.

Data related to incidence, prevalence, diagnosis and treatment of the chronic illnesses are common. However, data related to the psychological adjustment of patients to chronic illnesses is not available (Lambert, 1985). Only recently have researchers and investigators become interested in the holistic approach to the individual suffering from an illness of a chronic nature.

Some investigators have suggested that the psychological adjustment of patients with chronic illnesses is similar to that experienced by persons suffering grief due to the loss of a loved one. Indeed, loss of mental, physical and/or emotional capabilities

may be very similar to the grief associated with the loss of a significant other.

Purpose of the Study

The purpose of this study was to investigate the psychological adjustment of patients suffering from chronic illnesses. Specifically, there were two objectives to the study. The first objective was to describe the patients' psychological adaptation to pain. The second one was to describe the psychological acceptance of chronic illness by patients.

Conceptual Framework

Strauss and Glaser (1965) identified key problems and basic strategies to handle the problems of the chronically ill patient. These included: 1) prevention of medical crises but their management if they occur; 2) control of symptoms; 3) carrying out prescribed regimens and the management of problems associated with the implementation of these regimens; 4) prevention of, or living with, social isolation caused by lessened contact with others; 5) adjustment to changes in the course of the disease, whether it regresses, improves or has remissions; 6) attempts at maintaining a "normal" lifestyle and relationships with others; and 7) search for necessary money to pay the fees for treatment or to survive financially despite partial loss of employment (Anderson and Bauwens, 1981, p.8). Managing these key problems almost always requires the assistance of significant others such as family members and friends as well as health care practitioners and sometimes strangers.

Age, cultural and ethnic values, and individual characteristics

are just a few of a number of factors which may influence the reactions and psychological adjustment to chronic illness and/or pain.

Crago, Drain and Herrick focused on the topic of chronic pain and its relationship to the adjustment of patients suffering from disease and illness. According to their definitions (in Anderson and Bauwens, 1981, p. 40), chronic pain is a "...universal phenomenon affecting all individuals to some degree...(and is an) integration of physiological, psychological and sociological factors."

The psychological factors of chronic pain include the perception of pain which is unlike the other forms of perception in that it 1) aggravates, 2) annoys, 3) disturbs, and 4) impels the sufferer to escape. Additionally, the pain perception often merges into a manifestation of acute to chronic anxiety which is the central feature of chronic pain (Crago, Drain and Herrick, 1981).

Learning to live with chronic pain is conceptualized as adaptation, and the coping mechanisms for adaptation are both innate and acquired. Biological, psychological, and social mechanisms are the tools of the adaptation process. The disabling result of the pain often challenges the psychological coping skills and may intensify an individual's vulnerability. Indeed, the state of anxiety is often a constant companion of clients suffering from chronic pain.

Patient/client concerns of living with pain can focus on the following areas:

1. wondering how bad the pain will be;
2. if the pain increases, wondering if planned

activities will be interrupted or cancelled;

2. worry about addiction to medication or the side-effects of long-term use of prescribed medications;
4. the impact of medical bills and/or reduced income on their financial security; and
5. "what to do" or "what will happen" as a result of the chronic pain or illness (Drago, Drain and Herrick, 1981).

Patient reactions to chronic pain vary. Frustration, irritability, bitterness or guilt are often experienced as single or combination reactions. Not only may there be guilt because of the inability to work or maintain roles and responsibilities but there may be a belief that the reason for the affliction may be for punishment of some deed or thought.

As the reactions vary, so may the outcomes of the chronic pain problems. Some of these may include: 1) inability to participate in physical activities, 2) trouble falling asleep, 3) sleep being interrupted by pain, 4) problems associated with diet and/or weight (loss of appetite or weight gain), 5) changes in body images, 6) potential abuse of alcohol, cigarettes and coffee, or 7) social issues such as unemployment, financial difficulties, or loss of friends. Additionally, the impact of the patient's chronic pain and reaction upon the family relationship is an important factor. Parents, spouses, relatives and children are all affected to some degree by the suffering of the patient's pain. For example, some studies have indicated that family members of clients with diseases

exhibiting chronic pain have higher levels of psychiatric symptoms (i.e., depression) than do families of patients with diseases not characterized by chronic pain or general chronicity (Anderson and Bauwens, 1981). The divorce rates also have been found to be higher for these patients (Anderson and Bauwens, 1981).

Facilitating the adaptation to chronic pain is multifaceted. Included are training in self-regulation of pain and counseling in personal rehabilitation. Steps may include 1) assessment and planning, 2) identification of stressors and recognition of the impact of stress upon the disease (i.e. pain is increased by stress); people are subject to environmental, social and life event stressors; and worry, physical tension, anxiety and depression often accompany stressors and will result in increased pain, and 3) training in stress management and reduction (Crago, Drain and Herrick, 1981).

The evolution of living with chronic pain or illness may lead to crisis, trauma, and/or grieving. As a result of the grieving process as outlined by Kubler-Ross (1969), patients may progress or remain in the various five stages of denial, anger, bargaining, depression or acceptance. While much has been written, both in support and criticism of the theory proposed by Kubler-Ross, the general model can be a useful tool if it is recognized that the order of the stages may vary somewhat among individuals. Patients can vacillate between two or more stages, remain in one stage, regress from one stage to another, or completely skip one or more stages.

Other theorists have suggested stages of grieving as well (Gullo, Cherico, and Shadick, 1974). However, the adaptation and

recognition of the Kubler-Ross model has been more universal and it has been used most frequently.

In essence, the goals of health care for patients suffering from chronic illness and/or pain are two-fold in nature. They are 1) to minimize the discomfort experienced by the client and 2) to assist in the adaptation to a new and personally meaningful life-style with the development of new skills and interests to replace old ones as necessary.

It was against this conceptual framework that the following research questions were posed:

1. What relationships exist among the demographic characteristics (age, gender, educational background, race) and the adaptation to chronic pain and/or illness?
2. What relationships exist among the disease entities and the adaptation to pain and/or illness?
3. What relationships exist among the demographic characteristics, diagnosed disease entity (heart, kidney, emphysema, diabetes mellitus, arthritis, cancer), and the adaptation to pain and/or illness?

Research Methodology

The cluster sample was a group of 204 patient/clients of two internists- one a rheumatologist and one with a diverse patient population-in a large metropolitan midwestern city. The patients were asked to participate by the office receptionist as they appeared for their routinely scheduled office visits. The data collection occurred during a five week period.

The data was collected via a written questionnaire which was voluntarily completed by the patients. The instrument was purposefully designed to be anonymous and subjects were assured that all information would reflect grouped data.

The thirty-six item questionnaire had two parts which focused upon 1) the demographic data and the diagnosed illnesses and 2) the psychological adaptation to chronic pain and/or illness. The first seven items were designed to elicit information about age grouping, gender, ethnic background, educational background, specific illness, length of illness and the commencement of physician visitation. Twenty-nine questions focused upon the concerns, reactions, and outcomes of dealing with chronic pain and illness. The items were specifically designed to reflect the conceptual framework of the study.

An initial twenty-five item, self-designed instrument was field-tested with rheumatoid arthritic patients. The revision included expansion of the demographic items, clarification of items and the addition of four items related to psychological adaptation. The revision was field-tested once again prior to administration to the sample.

Multiple statistical procedures were used to analyze the data using the Statistical Package for the Social Sciences (SPSSX) on the VAX computer system at Indiana University-Furdue University at Indianapolis. These included frequency distributions, correlation coefficients, t-distributions, and analysis of variance. The procedures focusing on distributions were undertaken to determine

basic frequencies and measurements of central tendency. These procedures were felt to be the groundwork for further statistical analyses.

The zero-order correlations were sought in an effort to determine the relationships between the demographic items and the adaptation items. The Pearson Product-moment correlation coefficients were obtained with $\alpha < .05$ chosen as the level of statistical significance.

Analysis of variance was used to determine the differences between group means of the disease entities as well as the demographic items.

Findings

Analysis of the data related to the demographic items of the questionnaire revealed that one of the 204 patients who chose to participate, there was a nearly even distribution between the practices of the two internists. The rheumatologist had 104 patients while the other internist had 100. The patients ranged in age from 20-99 with 7 (3.5%) being 20-39 years, 14 (6.9%) 40-49 years, 149 (73%) between the ages of 50 and 79 and 15 (7.4%) being between 80 and 99 years of age. Females accounted for 80% of the respondents while males represented 20%. The sample was predominantly of the "white" race with only two Blacks, one American Indian, and one "Other" who identified themselves. Nineteen respondents chose not to complete this item. The educational background varied with 102 having completed high school, 65 having college or professional preparation, and 13 stating "Other".

The distribution of the patients by the six disease entities can be seen in Table 1. The large frequency for the arthritis category was expected in view of the fact that one of the sample clusters was patients of a rheumatologist. The overlap of diagnosed disease entities must be noted. The low frequencies for the categories of kidney disease and carcinoma were taken into account in further statistical analyses.

Table 1

Patient Distribution by Disease Entities.

Illness	Number of Patients (%)
Arthritis	161 (78.5%)
Heart Disease	46 (22.5%)
Diabetes Mellitus	36 (17.6%)
Emphysema	13 (6.4%)
Kidney Disease	5 (2.5%)
Carcinoma	10 (4.9%)

The data revealed that 49.4% of the patients had been told of their illness more than ten years prior to the study. The time frame since being informed of their illness ranged from one to seventy-one years with the mean length of time being 10 years. This item was not completed by 42 patients and represented the largest rate of incompleteness. It could be speculated that patients found it

difficult to remember when they had first been told of their illness and therefore chose to leave the item blank.

Nearly equal numbers of patients reported seeing the physician prior to knowing of the diagnosis as those who became patients after being informed. Forty-three percent indicated they began seeing their physician prior to diagnosis and forty-six percent stated they began seeing the internist following being told of the diagnosis.

The items related to adaptation to chronic pain and/or illness had a wide range of variation in completion. The items with the largest frequency rate were:

- I find myself getting frustrated when I can't do something that I used to do before I developed my illness.
- I worry about becoming dependent upon medication.
- I have trouble falling asleep.
- No matter how my body may change, I am the same person inside.
- I have accepted the challenges of my illness and face each day as it comes.
- I have decided that although I have an illness I can "learn to live with it".

These items had four or less omitted responses. In contrast, the items with the largest number of incompletions were:

- The pain is annoying to me.
- "Fighting the pain" is a constant struggle.

- I have tended to become more "religious".

The three items had 73, 39 and 38 omissions respectively. It must be noted that two of the three items related to the topic of pain. In view of the fact that some of the patients may not experience persistent pain due to their illness, the findings were not unexpected.

Table 2 presents an overview of the degrees of agreement, disagreement, and undecidedness for each of the twenty-five questions related to the psychological concerns of the study. The items resulting in the largest rate of patient agreement were: 1) I have decided that although I have an illness I can "learn to live with it". and 2) I have accepted the challenges of my illness and face each day as it comes. Both items had over 90% agreement with at least 25% indicating strong agreement with the statement. The item resulting in the largest degrees of disagreement was: I have made bargains, such as thinking "I'll go to the church or synagogue daily if I can become well again". Seventy-four percent of the patients indicated a negative response with over 18% reporting strong disagreement.

Table 2

Rank Order of Patient Responses of Agreement/Disagreement with
Items of Psychological Adaptation to Chronic Pain and/or illness.

Items	Agreement(%)	Disagreement(%)	Undecided(%)
Have decided..."I can learn to live with it"	188 (92.2%)	8 (4.0%)	5 (2.5%)
I've accepted challenges of illness and face day as comes	184 (90.2%)	13 (6.4%)	5 (2.5%)
I can have meaningful life	176 (86.3%)	9 (4.5%)	14 (6.9%)
No matter how body changes I'm same person	164 (80.4%)	26 (12.7%)	11 (5.4%)
Frustrated when I can't do...used to do.	152 (74.5%)	38 (18.6%)	11 (5.4%)
I've learned to cope with the pain	149 (73.0%)	26 (12.7%)	18 (8.6%)
I see my doctor more regularly	144 (70.6%)	31 (15.2%)	3 (1.5%)
Avoid pain by avoiding situation	137 (67.2%)	41 (20.1%)	15 (7.4%)
I'm concerned "what will happen"	134 (65.6%)	47 (23.0%)	14 (6.9%)
I'm concerned about influence of illness on financial resources	129 (63.3%)	50 (24.5%)	18 (8.6%)
I worry about becoming dependent on medicine	122 (54.9%)	68 (33.3%)	21 (10.3%)
I've deliberately slowed normal activity level	111 (54.4%)	58 (26.4%)	6 (2.9%)
Pain is annoying	106 (52.0%)	15 (7.4%)	5 (2.5%)

Chronic Illness

When first told...			
felt it was a mistake	100 (49.0%)	67 (32.8%)	30 (14.7%)
Fighting pain is			
Constant struggle	99 (48.5%)	59 (29.0%)	7 (3.4%)
When first told...			
felt "Whv me!"	96 (48.1%)	65 (31.5%)	27 (13.2%)
I'm unable to participate			
in physical activities	96 (47.0%)	80 (39.2%)	20 (9.8%)
I had feeling of great			
loss after told of			
chronic illness	82 (40.2%)	97 (47.6%)	17 (8.3%)
I'm worried about "what			
to do" about illness	77 (37.8%)	92 (45.1%)	25 (12.3%)
Changes in body affects			
my attitude of myself	73 (35.8%)	89 (43.2%)	27 (13.2%)
My sleep is interrupted			
by pain	70 (34.3%)	112 (54.9%)	12 (5.9%)
I have trouble sleeping	66 (32.4%)	122 (59.8%)	12 (5.9%)
Tended to meet less			
with friends	61 (29.9%)	104 (50.9%)	10 (4.9%)
When I wake I wonder			
how bad pain will be	60 (29.4%)	123 (60.3%)	8 (3.9%)
I've become more			
"religious"	58 (28.4%)	97 (47.6%)	11 (5.4%)
I'm worried about how			
people react to illness	46 (22.6%)	126 (61.8%)	22 (10.8%)
I'm bitter because			
of my illness	56 (22.5%)	123 (60.3%)	16 (7.8%)
I've given up hope that			
someone will find cure	43 (21.1%)	128 (62.7%)	27 (13.2%)
I've made bargains...			
if can become well	32 (15.7%)	151 (74.0%)	12 (5.9%)

Note: Items are noted in abbreviated computer format.

Pearson correlation coefficients were found for all variables.

The demographic items having significant relationships were:

- females reported negatively to having arthritis; males reported affirmatively ($p < .003$);
- increased age related positively with heart disease ($p < .001$);
- Females reported negatively to having heart disease ($p < .05$) and diabetes ($p < .039$).

Many significant relationships between the demographic items and the questions related to the psychological aspects of chronic pain and/or illness were identified. Older adults and males reported feeling that the diagnosis was a mistake. Younger patients and those with heart disease or kidney disease agreed with feeling "Why me!" Frustration at not being able to do what they had before becoming ill was reported by younger, female, arthritic patients. Heart disease, diabetes and cancer patients did not report this frustration.

The first three items related to pain revealed that agreement with the statement "pain is annoying" was affirmed by younger, less educated, arthritic patients; it was negatively reported by older, more educated, patients with heart disease, diabetes, or cancer. Arthritic patients were the only ones reporting that "fighting pain was a constant struggle". Significant disagreement was expressed by heart disease and diabetes patients. Avoiding pain was affirmed by the arthritis patients only.

Bitterness was related only with younger patients who had non-heart disease entities. Younger aged patients also reported

significant agreement with "waking and wondering how bad the pain would be." Male, non-white patients who affirmed having arthritis also agreed with wondering about pain. However, heart disease and diabetic patients disagreed.

Worry about the dependency on medication was expressed by arthritic patients but denied by those with heart disease or diabetes. Concern for personal financial resources was only affirmed for arthritic patients. Concern about "What will happen", however, was affirmed by younger, college educated, and arthritic clients. Patients with heart disease or diabetes did not express as much concern. Agreement with worrying about "what to do" was expressed by those with kidney disease but disagreement was reported by those with heart disease or diabetes.

Items related to sleeping difficulties were found to be related to educational level and the disease of arthritis. Arthritic patients, as well as those with less education, reported having trouble falling asleep. The arthritics also reported having their sleep interrupted by pain as did those with kidney disease or cancer. The diabetic and heart disease patients disagreed.

Younger patients who do not have heart disease nor diabetes but who have kidney disease express worry about how people will react to their illness. Only the arthritics reported that body changes affected their attitudes about themselves. Heart, diabetic, and cancer patients did not share this worry.

Only one group of chronically ill patients reported having made "bargains"; these were the patients with kidney disease. They also

affirmed that they had given up hope that someone would find a cure for their illness. The lack of hope was also associated with an increase in age of the patients with other diagnoses.

Three groups of patients reported having experienced a "great loss or sadness" after being told of their illness. These were younger, non-white, and without heart disease.

The four non-white patients disagreed with the statement that they have learned to live with the illness; whites expressed positive!v. The ten patients with cancer reported that they could still have a meaningful life even though they have a chronic illness.

A deliberate slowing of activity level was reported by females, college educated, patients who have arthritis. Diabetic clients report no slow-down of normal activities.

Older and arthritic patients affirmed that they tend to meet less often with friends. Cancer and kidney disease patients report becoming more "religious".

The patients who had more recently been told of their illness report agreement with 1) "why me!", 2) frustration regarding inability to do things, 3) annoying pain, 4) bitterness, and wondering how bad the pain will be as they awaken. These responses are characteristic of the denial and anger stages of the Kubler-Ross model.

Summary and Recommendations

Significant relationships exist between demographic information, disease entities, and the psychological adaptation to chronic pain and/or illness. In essence, younger patients report:

- initially seeing the internist after being told of the illness.
- feeling "why me!"
- experiencing frustration when they can't do something they used to be able to do.
- annoying pain.
- being bitter because of illness.
- concern about "what will happen".
- awaking and wondering how bad pain will be.
- concern about how people will react to illness.
- having hope for cure for illness.
- feeling a sense of great loss or sadness after told of illness.
- not tending to meet less often with friends.
- not becoming more religious.

These findings generally are congruent with the model of the grieving process as outlined by Kubler-Ross.

Educational background was found to be related to pain annoyance, sleeping difficulties, worry about "what will happen, and deliberate slowing of normal activities. Those patients with greater educational experience reported a lack of annoyance with pain, less trouble falling to sleep, less worry about what will happen, and little slowing down of normal activities.

Gender differences were found to be related to frustration with inability to perform tasks, awaking and wondering how bad pain would be, and slowing of activity level. Females reported frustration and

deliberate slowing of normal activities: males expressed wonder about degree of pain.

Patients with arthritis reported:

- frustration,
- annoying pain,
- fighting pain is constant struggle,
- avoidance of situations which could cause pain,
- worry about "what will happen?",
- inability to participate in activities,
- trouble falling asleep,
- sleep being interrupted with pain,
- body changes effect personal attitudes about self,
- deliberate slow down of normal activity level, and
- meeting friends less often.

Patients with Kidney disease expressed agreement with "why me!" feeling, and a worry about what to do about illness as well as a worry about how people will react to their disease. They also affirm that their sleep is interrupted by pain. As a group, these patients report they have given up hope that someone will find a cure for their illness. They have made "bargains" if they could become well again and report that there has been a tendency to become more "religious".

Likewise, the patients with cancer reported the tendency to become more "religious". They also reported that they can have meaningful lives even though they have illnesses. Sleep is interrupted by pain and pain is annoying to these clients. They do

not report frustration with the inability to perform tasks.

Heart disease patients affirm a lack of frustration with inability to perform tasks, lack of annoying pain, and the perspective that "fighting the pain" is not a constant battle. They did not agree with being bitter nor awaking to wonder how bad the pain might be. They do not worry about dependency on medication nor what will happen because of their illness or about "what to do" because of their disease. Sleep interruption is not affirmed nor is worry about people reactions to their illness. Body changes do not cause concern nor did the group report experiencing a sense of great loss or sadness after being told of their illness.

Diabetic patients expressed disagreement with a sense of frustration, the presence of annoying pain, a constant fight to control pain, or awaking and worrying about the degree of pain. A lack of worry about the dependency on medication or about "what will happen" were reported. Their sleep was not interrupted by pain nor were they concerned about people's reactions. Body changes were not felt to effect their self-image. They had not deliberately slowed their normal activities as a result of illness.

Preliminary findings indicate significant relationships have been identified. Elements of psychological adaptation, as described by Crago, Drain, and Herrick, have been identified. The various stages of the Kubler-Ross model of grief acceptance have also been identified.

Because of the findings related to the preliminary analyses of this study, the following recommendations are made:

1. Further statistical analyses should be undertaken to identify significant characteristics of psychological adaptation for each disease and demographic groupings.

2. Further analyses, focusing on the ability to predict patient psychological adaptation if demographic and disease entity elements are known, are warranted.

3. Other studies of the psychological adaptation of patients with chronic pain and/or illness is encouraged.

Cautious interpretation of the findings is warranted in view of the inclusion of cancer patients, the small number of emphysema and kidney disease patients, the omission of other chronic diseases, and the limited sample size.

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